# AN ATTEMPT

TO ILLUSTRATE THE

## USEFULNESS

OF

## DECIMAL ARITHMETIC,

IN THE

Rev<sup>d</sup>. Mr. *Brown*'s METHOD

OF WORKING

## INTERMINATE FRACTIONS.

To which is now added

## An APPENDIX.

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## THE SECOND EDITION.

# ATTEMPT

### TO ILLUSTRATE THE

# USEFULNESS

## OF

# DECIMAL ARITHMETIC.

**T**HE moſt conſiderable Improve-
ments in Decimal Arithmetic, that
have been made ſince the Days of
Mr. COCKER and Mr. WINGATE, (two
of the beſt Authors in the laſt Century)
conſiſt in the Manner of working Inter-
minate Fractions ; and of reducing our
Coin to Decimal Numbers, and valuing
thoſe Numbers at Sight.

<div align="right">A     And</div>

And it may be doubted, if any Thing new has been produced, that was not exhibited before the Revolution, by the Ingenious and Reverend Mr. BROWN, (who invented the *Rotula)* at leaft with equal Perfpicuity ?

I had the Honour to be one of his intimate Acquaintance, and learned more by a few Hours Converfation with him, than I could have attained by Years of Study; and fhall not now prefume to offer any Thing of my own, but will only communicate what I collected from his Inftructions.

To begin with the Reduction of Money. All the Difficulties therein are owing to the Subdivifions of a Pound Sterling : For if the Integer contained exactly 1000 Parts as a Mill Ree (or Quarter of a Moi d'Or) in *Portugal* doth, our Arithmetic would be all in round Numbers.

But

But having only 960 real Parts in a Pound, we are obliged to supply the Deficiency by the Addition of 40, and then suppose the Pound to consist of 1000 Farthings; whereof every 50 is accounted one Shilling, 25 are reckoned six Pence, and all under 24 are so many real Farthings.

By these Proportions we can at Sight reduce any decimal Number to Money; all Figures on the left Hand of the Pointer being Pounds, and of those to the right Hand, only the first three Figures (or the thousandth Parts) are the Fractions of a Pound.

Hence also we are instructed how to express Money in decimal Fractions; for we must set down fifty thousandth Parts for every Shilling, and for any Thing less than a Shilling as many Thousandths as

there

there be real Farthings, adding one if they amount to or exceed twenty-four.

But such Numbers only as are aliquot Parts of 100, will terminate rightly ; for unless the two laft Figures of the thoufandth Parts are Cyphers, or 25, or 50, or 75, they will be imperfect, and require more Places in the Decimal. To fupply which Defect, multiply the Difference or Excefs of the Thoufandths by .04 (which is the decimal Fraction of $\frac{1}{25}$th) adding 1 to every 24 in the Product, and you gain the two fubfequent Figures in the Place of hundred thoufandths. And if the fourth and fifth Figures be imperfect, proceed in the fame Manner to gain two more Places in the Decimal, which will then be exact, or end in a fimple Interminate, which is tantamount.

Thefe

These Rules will be more evident by the following

## EXAMPLES.

Let 2 s. 18 d. and 1 s. be expreſſed in Decimal Numbers.

For the 2 s. we ſet down $\frac{100}{1000}$ Parts, (which is $\frac{50}{1000}$ for each Shilling) expreſſed thus - - - - - - - - .100

For the 18 d. $\frac{50}{1000}$ and $\frac{25}{1000}$ thus .075

For the 1 s. only $\frac{50}{1000}$ thus - .050

And 6 d. being the Half of 1 s. is .025 = $\frac{1}{40}$

$40, 6 = 20$

Theſe four Numbers are perfect in the Place of Thouſandths, an Unit being added in each Decimal, for every 24 Farthings in the Sum expreſſed.

Now, if 6 d. or 24 Farthings, require the Addition of an Unit, the Decimal of every ſingle Farthing muſt have the $\frac{1}{24}$th

Part of that Unit added thereto to make it complete.

Thus for one Farthing we set down .001 thousandth, but the Decimal is imperfect, for it is not a full 24$^{th}$ Part of the true Decimal of six Pence, but wants the Addition of $\frac{1}{24}$th of 1, which is .0416, and if this Number be subjoined thus .0010416, it will perfect the Decimal of a Farthing.

For Proof of which, divide the Decimal of 6$d$. by 24, and the Quotient will be .0010416.

Here observe the Reason of substituting .04 instead of .0416, as a Coefficient for perfecting the Decimals. A Twenty-fifth being less than a Twenty-fourth only by 1 in 24; and the lesser Number being more easy to work by in the Head; for if you multiply by .04, and add 1 to every

24

24 in the Product, it will be the same as if you had multiplied by .0416.

Some Fractions of Money will be perfect at the fourth or fifth Place in the Decimal, as the following,

$$4\,d.\,\tfrac{1}{2} \qquad\qquad 3\,d. \qquad \text{and } 1\,d.\,\tfrac{1}{2}$$

Four Pence Halfpenny contain 18 Farthings, for which set down $\frac{18}{1000}$ thus .018, to perfect which Number multiply the 18 by .04, and the Product is 72, wherein are contained three 24*ths* so that 3 added to the 72 compleats the Decimal, thus .01875.

For three Pence set down .012, then multiply the 12 by .04, which produces 48, and add 2 for the two 24*ths* therein, and the Decimal is perfect, *viz.* .01250.

One Penny Halfpenny is .006, and .04 times 6 make 24, to which add 1, and the Decimal is .00625.

For

For Proof of the laſt two Numbers, di-
vide the Decimal of ſix Pence by 2, and
the Quotient by 2, thus

2) .025

2) .0125   the Decimal of 3 *d.*

.00625 ditto of three Halfpence.

Other Numbers require ſix or ſeven
Places in the Decimal, as
     11 *d.* ¼      6 *d.* ¾   and 5 *d.* ¼
For eleven Pence Farthing ſet down
.046, which is one more than the real
Number of Farthings; and as 46 exceeds
25 (which is a perfect Number) by 21,
multiply 21 by .04, it will produce 84,
to which add 3, and the hundred thou-
ſandths will be 87.   But this is imperfect
by an Exceſs of 12 above 75, wherefore
multiply 12 by .04, adding 1 to each 24
in the Product, and the two laſt Figures
                                    will

will be 50, so the perfect Decimal of $11d.\frac{1}{4}$ is .0468750.

Six Pence three Farthings are .028 thousandths, which exceed 25 by 3, and .04 times 3 make 12, and .04 times 12, adding as before directed, make 50, which compleats the Number thus .0281250.

Five Pence one Farthing is .021, and .04 times 21 produce 84, and 3 added make 87, which being 12 above 75, that Excess of 12 multiplied by .04 produces 50, as in the last Example, and the Decimal will be .0218750.

All the foregoing Examples are of perfect Numbers that terminate in 5 or in a Cypher; but there are other Fractions of Money that will be interminate, as

$\frac{1}{3}d$, $\frac{1}{6}$th, $\frac{1}{12}$th, and $\frac{1}{24}$th Part of 6d.

A Third of 6d. is 2d. which in the Thousandths is expressed thus .008. Now

.04

.04 times 8 is 32, and 1 added makes 33 in the fourth and fifth Places; but 33 exceeds 25 by 8, and the fame Excefs multiplied by .04 will produce 33 again, fo the Fraction will be interminate, having a continued Series of Threes, which is tantamount to a perfect Number, its Deficiency being only 1 in 10.

A Penny, or $\frac{1}{6}$th Part of 6*d*. is expreffed thus .004, and .04 times 4 make 16 for the hundred thoufandths, and .04 times 16 will produce 64, and 2 added will be 66, to go in the fixth and feventh Places of the Decimal; but 66 exceeds 50 by 16, and that multiplied again by .04, will give the fame Product continually, wherefore the Decimal is interminate, to wit .0041666.

An Halfpenny, or $\frac{1}{12}$th Part of 6*d*. is in the Thoufandths .002, multiply 2 by .04, it produces .08, and .04 times 8 is

32,

32, and 1 being added, (becauſe above 24) make 33 for the two laſt places, and need no lower reduction, ſo the Decimal is .0020833.

A Farthing, or $\frac{1}{24}$th Part of 6 $d$. is .001 in the Thouſandths, .04 times 1 is .04 in the Place of hundred thouſandths, and .04 times 4 are 16, which is interminate, and the Decimal ſtands thus .0010416.

Theſe few Examples ſhew all the Variety that can happen in the Reduction of Engliſh Money to decimal Fractions, and hereby we obtain a ſure Rule to know when any given Decimal is adequate to the Sum expreſſed by the thouſandth Parts; for if .04 times the Exceſs of the Thouſandths is the ſame with the two ſubſequent Figures, and .04 times the Exceſs of thoſe, the ſame with the ſixth and ſeventh Figures, the Decimal is perfect.

Note,

Note, the continuing the Decimals of Money lower than thousandth Parts, is never necessary but when some farther operation is to be performed therewith, as multiplying, dividing, adding, or subtracting them.

The Manner of working such decimal Fractions as are interminate, comes next to be considered.

And here it may be of Use to shew, how vulgar Fractions are converted into Decimals, and how to reduce them back into vulgar.

To reduce a vulgar Fraction to a Decimal one of equal Value, set down the Denominator for a Divisor, and the Numerator for a Dividend, adding thereto as many Cyphers as you want Places in the Quotient; fix a Pointer between the Numerator and the Cyphers, and work as in a common Division of whole Numbers.

EXAM-

## EXAMPLES.

Let $\frac{1}{4}$, $\frac{1}{8}$, and $\frac{1}{25}$ be reduced.

$$4)\ \underline{1.00} \qquad 8)\ \underline{1.000} \qquad 25)\ \underset{\times}{\underline{1.00}}\ (.04$$

$$.25 \qquad\qquad .125 \qquad\qquad \underline{100}$$

These Quotients (if continued) would terminate in Cyphers, and are therefore perfect Numbers.

Let $\frac{1}{6}$, $\frac{1}{12}$, and $\frac{1}{24}$ be reduced.

$$6)\ \underline{1.000} \qquad\qquad 12)\ \underline{1.0000}$$

$$.16\cancel{6} \qquad\qquad\qquad .0833$$

$$24)\ \underset{\times}{1.0000}\ (.041\cancel{6}$$
$$\underline{96}$$
$$\underline{40}$$
$$\underline{24}$$
$$\underline{160}$$
$$\underline{144}$$
$$16$$

The

The three laſt Quotients would conti-
nually repeat the ſame Figure, and are
therefore called ſimple Interminates.   But
there are other Fractions, which in the Re-
duction of them to Decimals, do not re-
peat a ſingle Figure only, like the fore-
going, but after producing a few Figures
in the Quotient, the Remainder will be
the ſame Number you began with, and
then of Courſe you will have a Repetition
of the ſame Figures over again, and theſe
are called compound Interminates.

Of which Sort are $\frac{1}{7}$, $\frac{1}{13}$, and $\frac{1}{73}$.

7)  1.000000000000
    ―――――――――――――
    .142857142857 + 1

$$\overset{\times}{13)}\ 1.00\ (.076923 + 1$$
$$\underline{91}$$
$$90$$
$$\underline{78}$$
$$120 \qquad\qquad 73)\ 1.\overset{\times}{00}\ (.01369863 + 1$$
$$\underline{117} \qquad\qquad\qquad \underline{73}$$
$$30 \qquad\qquad\qquad 270$$
$$26 \qquad\qquad\qquad \underline{219}$$
$$\underline{\phantom{26}} \qquad\qquad\qquad 510$$
$$40 \qquad\qquad\qquad \underline{438}$$
$$\underline{39} \qquad\qquad\qquad 720$$
$$1 \qquad\qquad\qquad \underline{657}$$
$$630$$
$$\underline{584}$$
$$460$$
$$\underline{438}$$
$$220$$
$$\underline{219}$$
$$1$$

When

When thefe compound Fractions confift of an even Number of Figures in the Decimal or Circle they form, they moft commonly have this Property, that one Half of the Circle added to the other Half, will always produce a Series of Nines; wherefore the Denominators of compound Interminates, are different from thofe of perfect Decimals, and of fimple Interminates.

For Inftance, the Decimal of $\frac{1}{7}$ contains a Circle of fix Figures, to wit, .142857 &c.

Now the firft and fourth Figures, the fecond and fifth, and the third and fixth (if added together) will make Nines, begin at what Part of the Circle you pleafe.

$$
\begin{array}{ccc}
142 & 285 & 571 \\
857 & 714 & 428 \\
\hline
999 & 999 & 999
\end{array}
$$

So the Decimal of $\frac{1}{73}$ is a Circle of eight Figures, *viz.* .01369863 &c.

Begin

Begin wherever you will, if the firſt four Figures be added to the four ſubſequent ones, the Total will be always a Series of Nines; as for Example,

| 1369 | 6986 |
|------|------|
| 8630 | 3013 |
| 9999 | 9999 |

which peculiar Property muſt always be regarded when any of theſe Fractions are to be reduced to their loweſt Terms; for as the Denominators of perfect Decimals and ſimple Interminates, are an Unit with Cyphers ſubjoined, ſo the Denominators of compound Interminates are always as many Nines as there are Places in the decimal Fraction.

Any Decimal may be reduced to a vulgar Fraction, by ſubſcribing its Denominator; for Inſtance,

.3125     .838    and    .65853 &c.

B                              The

The firſt is a perfect Number, the ſecond a ſimple Interminate, denoted by the Daſh through the laſt Figure, and the third is a compound Interminate, expreſſed by the &c. which ſignifies the ſame Figures would be repeated continually.

Subſcribe their Denominators, and they become vulgar Fractions, thus

$$\frac{3125}{10000} \qquad \frac{833}{1000} \qquad \frac{65853}{99999}$$

Theſe and the like Fractions are reduced to their loweſt Terms by finding a common Meaſure in the ordinary Way of reducing vulgar Fractions; though generally perfect Numbers may be ſooner reduced by a continued Diviſion by 5.

$$
\begin{array}{r}
.3125 ) \ 1.0000 \ ( 3 \\
9375 \\
\hline
0625 ) \ 3125 \ ( 5 \\
3125 \\
\hline
0
\end{array}
$$

The

The common Measure is .0625, by which divide the Numerator and Denominator, and they will produce a new Fraction in its loweſt Terms.

```
.0625) 3125 (5, new Numerator
       3125
       ――――
         0
```

```
         ×
.0625) 1.0000 (16, new Denominator
        625
       ――――
       3750
       3750
       ――――
         0
```

The ſecond Reduction.

$$5) \quad \frac{3125}{10000} \mid \frac{625}{2000} \mid \frac{125}{400} \mid \frac{25}{80} \mid \frac{5}{16} \text{ths.}$$

By each Way of reducing it, the perfect Decimal .3125 appears to be equal to $\frac{5}{16}$

Reduce

Reduce $\frac{833}{1000}$ to its lowest Terms.

$$833 ) 1000 ( 1$$
$$\underline{833}$$
$$.166 ) 833 ( 5, \text{ Numerator.}$$
$$\underline{833}$$
$$00$$

The common Measure is . 166

$$166 ) 1000 ( 6, \text{ Denominator}$$
$$\underline{1000}$$
$$00$$

Answer, $\frac{5}{6}$ are the lowest Terms.

Reduce $\frac{65853}{99999}$ to its lowest Terms.

$$65853 ) 99999 ( 1$$
$$\underline{65853}$$
$$34146 ) 65853 ( 1$$
$$\underline{34146}$$
$$31707 ) 34146 ( 1$$
$$\underline{31707}$$

The common Measure .02439 ) 31707 ( 13
$$\underline{2439}$$
$$7317$$
$$\underline{7317}$$
$$000$$

$$.02439 )$$

.02439) 65853 (27, Numerator
```
         4878
         ─────
         17073
         17073
         ─────
            00
```

.02439) 99999 (41, Denominator
```
         9756
         ─────
        02439
        02439
        ─────
           00
```

The Anſwer is $\frac{27}{41}$ the loweſt Terms.

Reduce $\frac{714285}{999999}$ to its loweſt Terms.

714285) 999999 (1
```
        714285
```

285714) 714285 (2
```
        571428
```

Common Meaſure .142857) 285714 (2
```
                    285714
                    ──────
```

142857) $\frac{714285}{999999}$ ($\frac{5}{7}$ the loweſt Terms.

As

As interminate Fractions, both fimple
and compound, have certain Deficiencies
peculiar to themfelves, the Manner of ad-
ding and fubftracting them muft differ
from that of perfect Numbers; but in
all of them Care muft be taken to fet
Tenths, Hundredths, and Thoufand Parts
&c. exactly under each other, and to fe-
parate from the Total as many decimal
Places as are contained in the loweft Frac-
tion added or fubftracted.

If fimple Interminates are to be added
all the Sums muft be continued to an equal
Number of Places; and in cafting up the
Units, you are to carry by Nine (inftead
of Ten) to fupply the Want of the fub-
fequent Figures, that would have been ex-
preffed, had they continued lower; for
as in the Reduction of thefe Numbers to
Decimals there is always a Remainder of
one in ten, fo in cafting up or multiplying
the

the Units, if you carry only Nines (inftead of Tens) it amounts to the fame as taking in that Remainder.

And if perfect Decimals are mixed with Interminates, the latter muft be continued, at leaft one Place, lower than the former, otherwife their Deficiency cannot fo well be fupplied.

Let the Decimals of 13 *s*. 4 *d*. 11 *s*. 8 *d*. and 5 *s*. 5 *d*. be added ; alfo the Decimals of 8 *s*. 4 *d*. 6 *s*. 10 *d*. and 4 *s*. 8 *d*.

| *l.* | *s.* | *d.* | | *s.* | *d.* | |
|---|---|---|---|---|---|---|
| | 13 : 4 | .66666 | | 8 : 4 | .41666 |
| | 11 : 8 | .58333 | | 6 : 10 | .34166 |
| | 5 : 5 | .27083 | | 4 : 8 | .23333 |
| 1 : 10 : 5 | 1.52083 | | 19 : 10 | .99166 |

The Units in the firft Example amount to 12, wherefore I fet down 3 and carry one ; in the fecond Example they amount to 15, which is 6 above 9, wherefore I

B 4 put

put 6 in the Unit's Place, by which Means the Deficiency is supplied.

If the Decimals of 13 *s.* 4 *d.* 6 *s.* 8 *d.* and 3 *s.* 4 *d.* are to be added, two Places in each Number will be sufficient.

These Decimals, expressed as low as thousandths, stand thus .66$ .33$ and .16$

|        |  *l.*  *s.*  *d.* |
|--------|--------|
| .6$    | 13 : 4 |
| .33    | 6 : 8  |
| .16    | 3 : 4  |
| 1.16   | 1 : 3 : 4 |

By this Example it appears, that simple Interminates may often be wrought with more Ease and fewer Figures than many perfect Numbers.

### EXAMPLES

Of perfect Decimals and simple Interminates added together, *viz.* 14 *s.* 2 *d.*

17 *s.*

17 s. 9 d. and 8 s. 10 d.; also 15 s. 4 d. 16 s. 3 d. and 17 s. 7 d.

| l. | s. | d. | |
|---|---|---|---|
| 14 : | 2 | | .70833 |
| 17 : | 9 | | .8875 |
| 8 : | 10 | | .44166 |
| 2 : | 0 : | 9 | 2.03750 |

| l. | s. | d. | |
|---|---|---|---|
| 15 : | 4 | | .766666 |
| 16 : | 3 | | .81250 |
| 17 : | 7 | | .879166 |
| 2 : | 9 : | 2 | 2.458333 |

Compound Interminates are likewise to be continued to an equal Number of Places, and the full Extent of their Circles, before they are cast up; and their Deficiency is supplied by trying what the subsequent Figures would have brought, had the Circles been repeated, which you may always know, if they consist of but few

Places,

Places, as do the Decimals of $\frac{1}{13}$ $\frac{1}{11}$ and $\frac{1}{365}$

Let $\frac{11}{13}$ and $\frac{8}{13}$ and $\frac{5}{13}$ be added; also $\frac{9}{13}$ and $\frac{6}{13}$ and $\frac{4}{13}$

| | |
|---|---|
| .846153 &c. | .692307 &c. |
| .615384 | .461538 |
| .384615 | .307692 |
| 1.846153 | 1.461538 |
| Total 1 and $\frac{11}{13}$ | Total 1 and $\frac{6}{13}$ |
| .571428 &c. | .714285 &c. |
| .428571 | .857142 |
| .285714 | .142857 |
| 1.285714 | 1.714285 |
| Total 1 and $\frac{2}{7}$ | Total 1 and $\frac{5}{7}$ |

In thefe Examples the Circles extend as low as Millionths, and then repeat ; fo that the Figures in the Place of Tenths would follow, if the Fractions were continued lower : But that is unneceffary, becaufe if

you

you caft up the Tenths firft in your Mind, you know how many you are to carry to the Millionth Parts, in order to fupply their Deficiency ; and this is a more certain Way than carrying by Nines, as in the Cafe of fimple Interminates, though in general that Method will anfwer, as appears by thefe four Examples.

When circular Numbers extend to a very great Length before they repeat, it is much eafier to perform the Work in vulgar Fractions, and then reduce your Product or Total to a decimal Fraction; there being many Numbers that will contain above fifty or threefcore Figures, and fome almoft an hundred Figures in the Quotient, before they begin to repeat, as the Decimals of $\frac{1}{97}$ $\frac{1}{61}$ and $\frac{1}{59}$ to all which Numbers the Rule of *Approximation* is generally applied, which is this, *viz.*

Make

Make two Operations; firſt with the given Numbers which are leſs than Perfection; then with the ſame Numbers, increaſing the loweſt Figure by one, which will be more than the Truth, and ſo far as the two Products or Totals agree, the Decimal muſt be perfect. See p. 39.

But we proceed to other Examples.

Let $\frac{25}{41}$ and $\frac{13}{41}$ and $\frac{10}{41}$ be added; alſo $\frac{90}{365}$ and $\frac{70}{365}$ and $\frac{50}{365}$

|  |  |
|---|---|
| .60975 &c. | .24657534 &c. |
| .31707 | .19178082 |
| .24390 | .13698630 |
| 1.17073 | .57534246 |

Total 1 and $\frac{7}{41}$        Total $\frac{210}{365}$

Let $\frac{35}{73}$ and $\frac{26}{73}$ and $\frac{12}{73}$ be added.

|  |  |
|---|---|
| .47945205 &c. | .05479452 &c. |
| .35616438 | .38356164 |
| .16438356 | .56164383 |
| .99999999 | 1.00000000 |

The

The Total of the firſt Sum is a Series of Nines, which is equal to Unity; wherefore in caſting up the ſecond Sum, I carried by Nine (inſtead of Ten) in the Units Place, which ſupplied the Deficiency; and if one had been added to the Units in the firſt Sum, it would have had the ſame Effect.

Substraction requires the like Diſpoſition of ſetting Tenths under Tenths, Hundredths under Hundredths, &c.; and as many Places muſt be ſeparated in the Difference, as there be in the loweſt of the given Numbers.

Interminates (whether ſimple or compound) muſt be of an equal Length; and always continued lower than perfect Numbers when both are given.

In ſubſtracting Infinites (or ſimple Interminates) from Infinites, or from perfect

Numbers,

Numbers, you are to borrow but Nine (inſtead of Ten) in the Unit's Place; and in compound Interminates you have Regard to what the ſubſequent Figures would produce, if the Fractions were continued lower.

## EXAMPLES.

| 4.375 | 10.4375 | 1.333 |
|---|---|---|
| 3.650 | 8.33333 | .666 |
| .725 | 2.10410 | .666 |

| .666 | .428571 &c. | .846153 &c. |
|---|---|---|
| .525 | .285714 | .538461 |
| .141 | .142857 | .307692 |

MULTIPLICATION of decimal Fractions is the ſame as of whole Numbers; and ſo are all other Operations therein.

The general Rule is to ſeparate as many decimal Places in the Product, as are contained

tained

ained in both Factors; and if the Product doth not contain so many Figures, supply the Deficiency by placing Cyphers on the left Hand, and then fix the Pointer or Decimal Note.

## EXAMPLES.

| 35.2 | .125 | 25.375 |
|---|---|---|
| 4.5 | .25 | 4.75 |
| 1760 | 625 | 126875 |
| 1408 | 250 | 177625 |
| 158.40 | .03125 | 101500 |
| | | 120.53125 |

If either of the Factors be an intermidiate Fraction, make it the Multiplicand, and if it be a simple Interminate, carry by Nines in the Multiplication of the Units, and when the Work is performed, make every Line of an equal Length before you cast them up, as was directed in the Rule of Addition.

EXAM-

# EXAMPLES.

| 25.38 | .166 | .1588 |
|-------|------|-------|
| 2.75 | 43.5 | 245. |
| 1266 | 833 | 7916 |
| 17733 | 500 | 63333 |
| 50666 | 66666 | 316666 |
| 69.6666 | 7.2500 | 38.7916 |

Let 4578 Dollars, at 3*s.* 4*d.* per Dollar, be reduced to Pounds Sterling; the Decimal of 3*s.* 4*d.* is .166.

| .166 | .166 | .16 |
|------|------|-----|
| 4578. | 4578. | 4578. |
| 13333 | 13333 | 133 |
| 11666 | 11666 | 1166 |
| 83333 | 8333 | 8333 |
| 666666 | 6666 | 66666 |
| 763.0000 | 762.9293 | 763.00 |

Here the same Question is wrought three
different Ways, whereby it appears, that
considerable Loss would be sustained, if
the

the feveral Products were not continued to an equal Length, before they were caft up; for in the fecond Operation, where the Figures that fhould be on the right Hand of the diagonal Line, are not fupplied, the Total proves very defective.

And the laft Operation manifeftly fhews, that fimple Interminates require fewer Figures to work with than more perfect Numbers frequently do.

When the Multiplicand is a compound Interminate, let it be continued to the full Extent of the Circle, that you may try what would be brought to the Figure in the Unit's Place; and let every Line of the Products be continued equally low, before you caft them up, taking Care that the Figures fo fupplied are fuch as properly belong to the refpective Circles.

C                                    Let

Let $\frac{5}{7}$ and $\frac{90}{365}$ be multiplied by 423.

| .714285 &c. | .24657534 &c. |
| --- | --- |
| 423. | 423. |
| 2.142857 | 73972602 |
| 14285714 | 49315068 |
| 285714285 | 98630136 |
| 302.142857 | 104.30136986 |

Product 302 $\frac{1}{7}$        Product 104 $\frac{110}{365}$

Four Men are concerned in a joint Undertaking, which originally belonged to thirteen Partners, whose Capital was divided into as many Shares, but now their Proportions are as follow, viz. *A* is possessed of $\frac{1}{13}$, *B* has $\frac{3}{13}$, *C* has $\frac{4}{13}$, and *D* $\frac{5}{13}$. They are to make a Dividend between them of 780*l*. Profits of the last three Months Trade; query each Man's Proportion thereof?

Take the Decimal of $\frac{1}{13}$ (to wit) .076923, &c. for a common Factor, which

<div align="right">multiply</div>

multiply by the Sum that is to be divided, and the Product will be exactly one thirteenth Part of the Sum.

|  |  | Factor |
|---|---|---|
| A's Share | 60 *l*. | .076923 &c. |
| B's ——— | 180 *l*. | 780. the Sum. |
| C's ——— | 240 *l*. |  |
| D's ——— | 300 *l*. | 615384$ |
|  |  | 538461$3 |
|  | 780 *l*. |  |
|  |  | 60.000000 |

Examples of decimal Fractions that will not circulate unlefs they be continued to a great Number of Places, in multiplying of which we ufually make two Operations, as before has been obferved under the Head of Approximation.

$13) \; 780. ( \; 60. \quad 60 \quad 60 \quad A \quad 60$
$\qquad 780 \qquad 3 \quad 4 \quad 5 \quad B \quad 180$
$\qquad (o) \quad 180. \; 240 \; 300 \quad C \quad 240$
$\qquad \qquad \qquad \qquad \qquad \qquad D \quad 300$
$\qquad \qquad \qquad \qquad \qquad \qquad \overline{\quad 780}$

Let

Let $\frac{50}{67}$ be multiplied by 432.

| .7462686 − | .7462687 + |
|---|---|
| 432. | 432. |

| 14925372 | 14925374 |
| 22388058 | 22388061 |
| 29850744 | 29850748 |

| 322.3880352 | 322.3880784 |

The two Products agree in the fractional Parts as far as to ten thousandths, which is sufficient, in case no further Operation is to be made therewith.

Multiplying by 10, 100, 1000, or any other Decuple, is performed by removing the Pointer forward, as many Places as you have Cyphers in the Multiplier.

Thus, the Decimal of 8 *s.* 5 *d.* $\frac{1}{4}$, which is .4218750, if multiplied

| by 10 | would be | 4.218750 |
| by 100 | ——— | 42.18750 |
| by 1000 | ——— | 421.8750 |
| by 10000 | ——— | 4218.750 |

All

All which may be performed in the Mind, without tranfcribing the Figures.

But in Divifion the Work is quite the Reverfe, by removing the Pointer back towards the left Hand, juft fo many Places as there are Cyphers in the Divifor. For as carrying the Pointer forward, gives the feveral Decuples of any Number, fo bringing it back, fhews the refpective Decimals of the fame Number.

Divifion, in other Refpects, is the fame as in whole Numbers; in which Care muft be taken in preparing the Dividend, and fettling the Quotient.

The Dividend muft contain as many decimal Places, as the Divifor and Quotient together; and the Quotient muft have exactly fo many as the Dividend hath more than the Divifor.

If it happens that the Quotient doth not contain fo many Figures, the Defect

C 3         muft

muſt be ſupplied by prefixing one or more
Cyphers, ſo as to take Place in the Deci-
mal; and if the Dividend be a whole
Number, ſubjoin a ſufficient Quantity of
Cyphers, that you may have Places enough
in the Quotient.

Laſtly, if the Dividend contains exactly
the ſame Number of decimal Places as are
in the Diviſor, the Quotient will be a whole
Number.

In 216*l*. Sterling, how many Pezzos, at
54*d*. per Pezzo.

The Decimal of one Pezzo is .225

```
.225) 216.000 (960 Pezzos
      2025
      ────
       1350
       1350
       ────
       0000
```

In 279 *l.* how many Mill Rees, at 5 *s.*
7 *d.* ½ per Mill Rez?

The Decimal of 5 *s.* 7 *d.* ½ is .28125.

.28125) 279.00000 (992. Mill Rees

$$
\begin{array}{r}
253125 \\
\hline
258750 \\
253125 \qquad 4)\ 992 \\
\hline
56250 \qquad 248.\ \text{Moi D'ors} \\
56250 \\
\hline
0000
\end{array}
$$

In 609 *l.* 8 *s.* 3 *d.* how many Livres, at
45 *d.* per Ecus, or Crown of 3 Livres, or
60 Sous Tournois?

One Livre is .0625 = *l.* 3

.0625) 609.41250 (9750.6

$$
\begin{array}{r}
5625 \\
\hline
4691 \\
4375 \\
\hline
3162 \\
3125 \\
\hline
3750 \\
3750 \\
\hline
00
\end{array}
$$

Answer 9750 Livres and 12 Sous.

C 4                                    If

If either or both of the Factors be Interminate, work by the following Rules.

When the *Dividend* is an interminate Number, and you have Occasion to continue it lower, it muſt be done with the proper Figures belonging to the same Fraction, whether ſimple or compound.

When the *Diviſor* is an Interminate, the firſt Product thereof, when placed under the Dividend, muſt be continued to an equal Length therewith, and when ſubſtracted, it will produce a new Dividend; and the ſame Method muſt be repeated as often as any Figure is continued in the Quotient.

If a perfect Number is to be divided by an interminate one, let the Dividend end in a Cypher, elſe the firſt Subſtraction may prove wrong.

In

In 133 *l.* 1 *s.* 4 *d.* $\frac{1}{2}$, how many Dollars, at 37 *d.* $\frac{3}{4}$ ?

.1572916) 133.0687500 (846
        1258333333
        ‒‒‒‒‒‒‒‒‒‒
         72354166
         62916666
        ‒‒‒‒‒‒‒‒‒‒
          9437500
          9437500
        ‒‒‒‒‒‒‒‒‒‒
          0000000

Anſwer 846. Dollars.

Let $\frac{10}{37}$ be divided by $\frac{4}{16}$ in decimal Numbers.

.0625) .270270270 (4.32432 *&c.*
        2500
       ‒‒‒‒
        2027
        1875
       ‒‒‒‒
        1520
        1250
       ‒‒‒‒
        2720
        2500
       ‒‒‒‒
        2027
        1875
       ‒‒‒‒
        1520
        1250
       ‒‒‒‒
        270

The Quotient is 4 $\frac{12}{37}$

Let

Let $\frac{1}{4}$ of $\frac{1}{13}$ be divided by $2\frac{1}{2}$ decimally, that is .019230769 &c. by 2.5

$$2.5)\ .019230769\ (.00769230$$

$$
\begin{array}{r}
175 \\ \hline
173 \\
150 \\ \hline
230 \\
225 \\ \hline
57 \\
50 \\ \hline
76 \\
75 \\ \hline
19
\end{array}
$$

The Quotient is $\frac{1}{130}$ Part, or $\frac{1}{10}$ of $\frac{1}{13}$

Let

Let 8 and $\frac{4}{7}$ be divided by $\frac{1}{3}$ and $\frac{2}{3}$ ds

·3̄3̄) 8.5714285 (25.71428
   6̸6666666

   19047619
   16̸666666

    2380952         8.57
    2383333           3

     47619    25.71 $=$ 25 $\frac{5}{7}$
     38333

     14285
     13833

       952
       6̸86

       285
       26̸6̸

      1904 &c.

(66

.6̶) 8.5714285 (12.85714
  6̶666666

  19047619          8.57
  13̶333333          $1\frac{1}{2}$

   5714285          8.57
   53̶33333          4.28

    380952       $12.85 = 12\frac{6}{7}$
    33̶8333

     47619
     46̶666

      952
      6̶66      2) 25.71428 ⎫
                     } Proof.
      285        12.85714 ⎭
      26̶8

   1904 *&c.*

It is prefumed the Examples before
given under each Rule, are fufficient t͟
explain the Manner of working intermi͟
nate Fractions, unto any one who is to͟
lerably acquainted with decimal Arithme͟
tic͟

c; and to the consideration of such persons only these sheets are submitted.

One peculiar Advantage of round Numbers is, that all Reduction from higher to lower Denominations, and back again from lower to a superior Denomination, is entirely saved, every Sum being at once expressed both in its highest and lowest Denomination, the Pointer, or decimal Note, fixing its Value, and the Removal thereof increasing or diminishing the same, in a tenfold Proportion; which is the Reason of their being considered as whole Numbers in all Operations.

This Property of being multiplied, or divided, only by removing the Pointer forward or backward, and thereby obtaining the several Decuples, or Decimals, of any given Sum, or Quantity, makes these Numbers the fittest of any for constructing all Sorts of Tables. Nine Lines only, and those

those containing but few Figures, being
sufficient to form a Table of very great
Extent; whereas Tables constructed in
vulgar Numbers, besides being liable to
various typographical Mistakes, require
more than ten thousand times the Number of Figures to answer the same Purposes; of which an Example shall be
given in one general Table of Interest for
Days.

The Income for one Day of 1 *l.* per Annum, is .002739726 *&c.* which is the
Quotient of 1 *l.* divided by 365.

A Table constructed from this Quotient
must necessarily shew, by Inspection, the
daily Income of any annual Sum, and
consequently will be applicable to Questions of Interest for Days.

# A TABLE
## at 100 l. *per Cent. per Annum.*

| Indices. | Tabular Sums. |
| --- | --- |
| 1 | .002739726 |
| 2 | .005479452 |
| 3 | .008219178 |
| 4 | .010958904 |
| 5 | .013698630 |
| 6 | .016438356 |
| 7 | .019178082 |
| 8 | .021917808 |
| 9 | .024657534 |

The Indices denote the yearly Revenue, and the tabular Sums give the Income thereof for one Day.

| | Thousandths. | l. | s. | d. | |
| --- | --- | --- | --- | --- | --- |
| Thus 6 l. per A. yields per D. | .016 or | 0 | 0 | $3\frac{3}{4}$ | 78 |
| 60 - - - - - | .164 - | 0 | 3 | $3\frac{1}{4}$ | 81 |
| 600 - - - - - | 1.643 - | 1 | 12 | $10\frac{1}{2}$ | 08 |
| 6000 - - - - - | 16.438 - | 16 | 8 | 9 | 82 |

Increase

Increaſe the annual Sum by any Num-
ber of Days, and the Table will equally
ſhew the Income for thoſe Days.

If the Income of the laſt mentioned
yearly Sums was required for ten Days on
each Sum, the Anſwers would be as fol-
lows :

|  |  | Thouſandths. |
|---|---|---|
| The 6 *l.* *per Ann.* would produce | | .164 |
| 60 - - - - - - - - | | 1.643 |
| 600 - - - - - - - | | 16.438 |
| 6000 - - - - - - - | | 164.383 |

Every Sum being increaſed ten times.

If a Widow's Jointure of 500 *l. per Ann.*
is in Arrear fourſcore Days, what is due
for that Time ?

| 500 *per Ann.* | Index | Tab. Number |
|---|---|---|
| 80 Days | 40000 — | 109.589 *&c* |

40000

The Anſwer is 109 *l.* 11 *s.* 9 *d.* $\frac{1}{4}$ and $\frac{48}{100}$
of a Farthing.

To

To apply this Table to Interest for Days, requires only the finding one Year's Interest of the principal Sum, which is always an hundredth Part of the Product of the same Sum, multiplied by the Rate *per Cent.*

Thus the Interest for one Year, of 2150*l.* principal Money, at the Rate of 4*l. per Cent. per Ann.* is found to be 86*l.* and if you would know ten Days Interest of the same Principal, take the tabular Sums answering to 860. in the Indices, which is increasing the yearly Sum by the Time, as before directed.

2150 . Principal ⎫ An hundredth Part of
   4 . the Rate ⎬ the Product is 86*l.* one
8600 . Product ⎭ Year's Interest.

| | Indices | Tabular Sums |
|---|---|---|
| 86 *per Ann.* | 800. — | 2.19178 |
| 10 Days | 60. — | .16438 |
| 860 | | 2.35616 |

Answer, 2*l.* 7*s.* 1*d.* ¼ 92 the Interest for 10 Days.

Other

## Other Examples.

685   at   5 *per Cent*. for 26 Days

  5

—————

34.25   one Year's Interest

  26

—————

| | | |
|---|---|---|
| 205.50 | 800. — | 2.191780 |
| 6850 | 90. — | .246575 |
| | 0.5 — | .001369 |
| 890.50 | | ————— |
| | | 2.439726 |

Anfwer, 2 *l*. 8 *s*. 9 *d*. $\frac{1}{2}$ 14 hundredth of a Farthing.

2500 *l*. at 3 $\frac{1}{2}$ for 68 Days

   3 $\frac{1}{2}$

—————

| | Indices | Tabular Sums |
|---|---|---|
| 7500 | | |
| 1250 | 5000 — | 13.69863 |
| | 900 — | 2.46565 |
| 87.50 a Year's Int. | 50 — | .13698 |
| 68 | | ————— |
| | | 16.30136 |

70000

52500

—————

5950.00

12000 *l*.

12000*l.* at 4¼ for 80 Days
    4¼

| 48000 | 40000 | — | 109.58904 |
| 3000 | 800 | — | 2.19178 |

510.00 *per Ann.*         111.78082
  80.

40800.

Anſwer, 111 *l.* 15 *s.* 7 *d.* ¼ 59

In the ſame Manner, Tables may be raiſed for almoſt every Purpoſe, only by expreſſing the Value of an Unit in a decimal Fraction, and multiplying the ſame through the nine Figures.

There are certain Officers in the Navy, whoſe Pay is 13 *s.* 6 *d. per Diem*; now if one Day's Wages be reduced to a Decimal, and a Table formed thereon, the Value of any Number of Days Pay may be known by Inſpection, which may be of great Uſe to a Pay-Clerk in the Hurry of Buſineſs. The Decimal of one Day's Pay is .675.

D 2         The

The TABLE is as follows:

| Days. | Wages. |
|-------|--------|
| 1 | 0.675 |
| 2 | 1.350 |
| 3 | 2.025 |
| 4 | 2.700 |
| 5 | 3.375 |
| 6 | 4.050 |
| 7 | 4.725 |
| 8 | 5.400 |
| 9 | 6.075 |

What is due to a Captain of a third Rate for 134 Days?

| | |
|---|---|
| 100 Days — | 67.5 |
| 30 ——— | 20.25 |
| 4 ——— | 2.7 |
| | 90.45 |

The Answer is 90 *l.* 9*s.*

The several Parts of Time reduced to decimal Numbers, will be found very serviceable in the Construction of astronomical Tables, &c. as they greatly facilitate and shorten the Calculations.

The Decimal of 1 Hour (or $\frac{1}{24}$ of a Day) is .0416; $\frac{1}{6}$ of $\frac{1}{10}$ of 1 Hour gives the Decimal of 1 Minute, *viz.* .000694

and $\frac{1}{6}$ of $\frac{1}{10}$ of 1 Minute is the Decimal of 1 Second, .00001157407 &c.

24) 1.0000 (.0416 the Decimal of 1 Hour

```
    96
   ---
    40
    24
   ---
   160
   144
   ---
    16
```

6) .004166 one Tenth of 1 Hour
   -----
   .000694 the Decimal of 1 Minute

6) .0000694444 one Tenth of 1 Minute
   ------------

   .00001157407 Decimal of 1 Second

In like Manner the Decimals of 3$^{ds}$, 4$^{ths}$, 5$^{ths}$, &c. are produced, and may be formed into Tables by multiplying them through the nine Figures, as before directed.

D 3                The

The Excefs of the mean tropical folar Year, above the Egyptian Year of 365 Days, amounts to 5 Hours and 49 Minutes.

The Decimal of 5 h.　0 min. —— .208333
　　　　　　　of　　　40　—— —— .027777
　　　　　　　of　　　　9　—— —— .006250
　　　　　　　　　　　　　　　　　　.24236*x*

And as every Equinox and Solftice falls 5 h. 49 min. later than in the preceeding Year, a Table formed from this Number .24236*x* may be applied to many ufeful Purpofes.

For Inftance, In 1753 the Sun entered Libra, in a Meridian that lies 156° Weft of Greenwich, on September the 22$^d$ (or 265$^{th}$ Day from the Calends of January) precifely at Noon, and 10 h. 24 min. later at Greenwich.

Now if we would know the Time of the autumnal Equinox in the prefent Year 1763,

1763, we muſt add to the Time in 1753, as many times 5 h. 49 min. as Years have elapſed, rejecting the Days, and the Anſwer is given :

The Interval between 1753 and 1763 is ten Years, the Decimal of 5 h. 49 min. anſwering to one Year is .24236*r*; therefore ten Years will be 2.4236*r*, of which the two Days are to be rejected, and only the Decimal .4236*r* retained, which is equal to 10 h. 10 min.

$$
\begin{array}{rr}
\text{The Reduction} & .4236 \\
& 24 \\
\hline
& 16944 \\
& 84722 \\
\hline
\text{H.} & 10|16\cancel{6} \\
& 60 \\
\hline
\text{M.} & 10|000
\end{array}
$$

D 4　　　　　　　Sun

|                                    | D. | H. | M. |
|------------------------------------|----|----|----|
| Sun in Libra 1753, Sept.           | 22 | 0  | 0  |
| Add for 10 Year's Interval         |    | 10 | 10 |
|                                    | 22 | 10 | 10 |
| Add for Meridian of Greenwich      |    | 10 | 24 |
| In 1763, Sept.                     | 22 | 20 | 34 |

It would be endlefs to enumerate all the Advantages of thefe Numbers, whereby we can raife Factors for whatever Ufes we may have Occafion.

For Inftance, in Cafes of Exchange ;

Reduce an Unit of the foreign Money to a Decimal of a Pound Sterling, and it becomes a common Factor; which, if multiplied by any Quantity of the foreign Money, gives the Value of the whole in Englifh.

And if any Sum of Englifh Money be divided by the fame Factor, the Quotient will be its Value in the foreign Money.

A

A Bill is drawn for 54 Mill Rees, at 67 *d.* ½ per Mill Ree.

The Decimal of 1 Mill
Ree is  -  -  -  .28125
                  54
         ─────────
        112500
        140625
       ─────────   *l.*  *s.*  *d.*
      15.18750 = 15   3   9

Let 236 *l.* 5 *s.* Sterling be reduced to Mill Rees, of 67 *d.* ½ per Mill Ree.

.28125) 236.25000 (840 Mill Rees
       225000
      ─────────
       112500
       112500    4) 840
      ─────────    ─────
       00000      210 Moi d'Ors

Proof:

Proof :     1.125    one Moi d'Or
               210
              ——————
             11250
             2250
             ——————        *l.*    *s.*   *d.*
           236.250 = 236   5   0

Here the fame Factor anfwers both Queftions.

See other Examples in *Multiplication* and *Divifion*.

I am engaged in a public Undertaking, wherein my Share or Intereft is a one and fortieth Part of the Profit and Lofs upon the whole.

Now the Decimal of $\frac{1}{41}$ is .02439 &c. And if this Factor be multiplied by any given Sum, the Product will be a one and fortieth Part of that Sum, whereby I may furely know what I am to pay or receive. See the Cafe in page 38 and 39.

If

If I am to pay any particular Duty, as fuppose the old Subfidy on Tobacco, which is 5 *l.* per Cent. upon the Rate for every Pound of Tobacco, with a Difcount of 25 *l.* per Cent. for prompt Payment;

The Decimal of the Duty or Subfidy is .0031250; multiply this Factor by the Number of Pounds of Tobacco, and the Product will be the Sum to be paid.

The Wages of an able Seaman at 22 *s.* per Month, is per Diem .0392857142 &c.

Let this Factor be multiplied by the Number of Days, and the Wages are feen by the Product.

The Clerks in Chancery charge 10 *d.* per Sheet for Copies of Bills, Anfwers, and other Pleadings.

The Decimal of 10 *d.* is .0416
Which Factor, if multiplied by any Number

ber of Sheets, produces the Sum to be paid to the Clerk.

*To form a Chronological Table that will shew the Day, Hour, and Minute, of the Autumnal Equinox in any Year of the World.*

Reduce the Quantity of a tropical Year to a decimal Number, which will be 365.2423611*r* ; multiply this Factor through the nine Figures, and the Table is formed.

| | |
|---|---|
| 1 | 365.242361 |
| 2 | 730.484722 |
| 3 | 1095.727083 |
| 4 | 1460.969444 |
| 5 | 1826.211805 |
| 6 | 2191.454166 |
| 7 | 2556.696527 |
| 8 | 2921.938888 |
| 9 | 3287.181250 |

Q.

Q. The Time of the Sun's entering Libra A. M. 3000, the firſt Year after Biſſextile?

| Years | Days |
|---|---|
| 3000 ———— | 1095727.08⅔ = to 1/12 d. or 2 h. |

7) 1095727
———————
156532 + 3 ☉

|  | D. | H. | M. |
|---|---|---|---|
| Epoch for Libra | 297 | 0 | 0 |
| 3000 Yrs. Interval |  | 2 | 0 |
|  | 297 | 2 | 0 |
| Retroceſſion | 22 |  |  |
|  | 275 | 2 | 0 |
|  | 273 |  |  |
| Sunday, October | 2 | 2 | 0 |
|  |  | 10 | 24 |
| October | 2 | 12 | 24 at Greenw. |

The

## The same Table converted into vulgar Numbers.

| Years. | D. | H. | M. | Years. | D. | H. | M. |
|---|---|---|---|---|---|---|---|
| 9000 | 3287181 | 6 | 0 | 90 | 32871 | 19 | 30 |
| 8000 | 2921938 | 21 | 20 | 80 | 29219 | 9 | 20 |
| 7000 | 2556696 | 12 | 40 | 70 | 25566 | 23 | 10 |
| 6000 | 2191454 | 4 | 0 | 60 | 21914 | 13 | 0 |
| 5000 | 1826211 | 19 | 20 | 50 | 18262 | 2 | 50 |
| 4000 | 1460969 | 10 | 40 | 40 | 14609 | 16 | 40 |
| 3000 | 1095727 | 2 | 0 | 30 | 10957 | 6 | 30 |
| 2000 | 730484 | 17 | 20 | 20 | 7304 | 20 | 20 |
| 1000 | 365242 | 8 | 40 | 10 | 3652 | 10 | 10 |
|  |  |  |  |  |  |  |  |
| 900 | 328718 | 3 | 0 | 9 | 3287 | 4 | 21 |
| 800 | 292193 | 21 | 20 | 8 | 2921 | 22 | 32 |
| 700 | 255669 | 15 | 40 | 7 | 2556 | 16 | 43 |
| 600 | 219145 | 10 | 0 | 6 | 2191 | 10 | 54 |
| 500 | 182621 | 4 | 20 | 5 | 1826 | 5 | 5 |
| 400 | 146096 | 22 | 40 | 4 | 1460 | 23 | 16 |
| 300 | 109572 | 17 | 0 | 3 | 1095 | 17 | 27 |
| 200 | 73048 | 11 | 20 | 2 | 730 | 11 | 38 |
| 100 | 36524 | 5 | 40 | 1 | 365 | 5 | 49 |

Q. The tropical Reduction of 1440 Years?

| 1000 | —— | 365242 | 8 | 40 |
|---|---|---|---|---|
| 400 | —— | 146096 | 22 | 40 |
| 40 | —— | 14609 | 16 | 40 |

Answer    525949   Days.

I might

I might tire the Reader by inftancing one Tythe of the Cafes wherein thefe Numbers excel our common Arithmetic; but hope I have produced enough to fhew their Superiority; wherefore I fhall leave the further Application of them to thofe whofe Bufinefs may require it, and who have Leifure to purfue the agreeable Tafk.

I freely confefs, that, for my own Part, I never had Occafion for greater Skill in Numbers, than would enable me to caft up a Tradefman's Bill; but having fub-fcribed for Mr. BROWN's *Arithmetica Infinita*, on its firft Publication in 1718, I was defirous to know on what Principle his Tables were formed, and the Pleafure attending my Inquiry, engaged me in the Study of this Species of Arithmetic, fo far as to acquire that little Knowledge I

have

have therein; and I ſhall think my Trouble
amply recompenced, if what is now im-
parted may be of Uſe to Society.

# APPENDIX

## TO THE

ATTEMPT to illuftrate the Ufefulnefs of DECIMAL ARITHMETIC.

EVERY Decimal is the Quotient of the Numerator of fome vulgar Fraction, divided by its Denominator.

Some Quotients will terminate in Cyphers, and are always perfect Decimals; others will continually repeat the fame Figure, and are adequate to Perfection; and others will continue a few Figures, and then repeat the fame Figures again; but many will continue to a great Length, before they begin to repeat.

E        As

As for Example, $\frac{2}{8}$ will be .250
$\frac{1}{3}$ will be .333
and $\frac{1}{7}$ will be .142857142857 &c.
but $\frac{1}{53}$ will be .01886792452830188 &c.

Perfect Decimals are wrought as whole Numbers; fimple Interminates, by carrying by Nines the firft Figure you multiply; and circular Numbers, by trying what the fecond Part of the Circle would bring forward: but when the Decimal continues to a great Number of Figures, we work by Approximation (that is) we take the firft feven or eight Figures, and multiply them by the given Number, then we multiply the fame Figures, increafing the laft Figure by one, by the fame Number, and fo far as the Products agree in the fractional Parts, they muft be perfect.

Let .333 be multiplied by 5, .142857 by 4, and .01886792 by 234.

.333

| | |
|---|---|
| ·333 | ·142857 |
| 5· | 4 |
| 1.666 | ·571428 |

| | |
|---|---|
| ·01886792 | ·01886793 |
| 234· | 234· |
| 07547168 | 07547172 |
| 5660376 | 5660379 |
| 3773584 | 3773586 |
| 4·41509328 | 4·41509562 |

In the laſt Examples, the Totals agree
as far as to Ten Thouſandths in the frac-
tional Parts, which is ſufficient, if no fur-
ther Operation is required to be therewith
performed.

Every Decimal Fraction may be reduced
to Money, by taking only the thouſandth
Parts, for every Fifty wherein you com-

E 2                              pute

pute One Shilling; and for any Thing lefs than Fifty, reckon as many real Farthings, bating one if they exceed 24, the Decimal of 6 Pence being .025

And hereby we may learn, how to exprefs Englifh Money in Decimals, (to wit) fet down Fifty Thoufandths for every Shilling, and for any Thing lefs than a Shilling, as many Thoufandths as there are real Farthings, adding one if they amount to, or exceed 24.

If the Decimal fhould not be compleat in the Thoufandth Parts, it muft be perfected according to the Rules I have laid down in my foregoing Treatife on the Ufefulnefs of Decimal Arithmetic, wherein I have given exact Directions how to multiply and divide them, and to perform many other Operations in Decimals, and alfo to conftruct Tables for various Purpofes; of which Sort are the following

Ninety-

## NINETY-ONE TABLES,

Shewing at Sight,

The Income of Annuities, Pensions, Wages, and other Yearly Payments, for any Number of Days under three Calendar Months.

---

### One Day.

| | |
|---|---|
| 1 | . 0 0 2 7 3 9 7 2 6 |
| 2 | . 0 0 5 4 7 9 4 5 2 |
| 3 | . 0 0 8 2 1 9 1 7 8 |
| 4 | . 0 1 0 9 5 8 9 0 4 |
| 5 | . 0 1 3 6 9 8 6 3 0 |
| 6 | . 0 1 6 4 3 8 3 5 6 |
| 7 | . 0 1 9 1 7 8 0 8 2 |
| 8 | . 0 2 1 9 1 7 8 0 8 |
| 9 | . 0 2 4 6 5 7 5 3 4 |

E 3        Two

# APPENDIX.

## Two Days.

| 1 | . ○ ○ 5 4 7 9 4 5 2 |
|---|---|
| 2 | . ○ 1 ○ 9 5 8 9 ○ 4 |
| 3 | . ○ 1 6 4 3 8 3 5 6 |
| 4 | . ○ 2 1 9 1 7 8 ○ 8 |
| 5 | . ○ 2 7 3 9 7 2 6 ○ |
| 6 | . ○ 3 2 8 7 6 7 1 2 |
| 7 | . ○ 3 8 3 5 6 1 6 4 |
| 8 | . ○ 4 3 8 3 5 6 1 6 |
| 9 | . ○ 4 9 3 1 5 ○ 6 8 |

## Three Days.

| 1 | . ○ ○ 8 2 1 9 1 7 8 |
|---|---|
| 2 | . ○ 1 6 4 3 8 3 5 6 |
| 3 | . ○ 2 4 6 5 7 5 3 4 |
| 4 | . ○ 3 2 8 7 6 7 1 2 |
| 5 | . ○ 4 1 ○ 9 5 8 9 ○ |
| 6 | . ○ 4 9 3 1 5 ○ 6 8 |
| 7 | . ○ 5 7 5 3 4 2 4 6 |
| 8 | . ○ 6 5 7 5 3 4 2 4 |
| 9 | . ○ 7 3 9 7 2 6 ○ 2 |

Four

## Four Days.

| | |
|---|---|
| 1 | . o 1 o 9 5 8 9 o 4 |
| 2 | . o 2 1 9 1 7 8 o 8 |
| 4 | . o 3 2 8 7 6 7 1 2 |
| 4 | . o 4 3 8 3 5 6 1 6 |
| 5 | . o 5 4 7 9 4 5 2 o |
| 6 | . o 6 5 7 5 3 4 2 4 |
| 7 | . o 7 6 7 1 2 3 2 8 |
| 8 | . o 8 7 6 7 1 2 3 2 |
| 9 | . o 9 8 6 3 o 1 3 6 |

## Five Days.

| | |
|---|---|
| 1 | . o 1 3 6 9 8 6 3 o |
| 2 | . o 2 7 3 9 7 2 6 o |
| 3 | . o 4 1 o 9 5 8 9 o |
| 4 | . o 5 4 7 9 4 5 2 o |
| 5 | . o 6 8 4 9 3 1 5 o |
| 6 | . o 8 2 9 1 7 8 o |
| 7 | . o 9 5 8 9 o 4 1 o |
| 8 | . 1 o 9 5 8 9 o 4 1 |
| 9 | . 1 2 3 2 8 7 6 7 1 |

E 4

Six

## Six Days.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 0 1 6 | 4 | 3 8 | 3 | 5 6 | | | |
| 2 | . | 0 3 2 8 7 6 7 1 2 | | | | | | | |
| 3 | . | 0 4 9 3 1 5 0 6 8 | | | | | | | |
| 4 | . | 0 6 5 7 5 3 4 2 4 | | | | | | | |
| 5 | . | 0 8 2 1 9 1 7 8 0 | | | | | | | |
| 6 | . | 0 9 8 6 3 0 1 3 6 | | | | | | | |
| 7 | . | 1 1 5 0 6 8 4 9 3 | | | | | | | |
| 8 | . | 1 3 1 5 0 6 8 4 9 | | | | | | | |
| 9 | . | 1 4 7 9 4 5 2 0 5 | | | | | | | |

## Seven Days.

| | | |
|---|---|---|
| 1 | . | 0 1 9 1 7 8 0 8 2 |
| 2 | . | 0 3 8 3 5 6 1 6 4 |
| 3 | . | 0 5 7 5 3 4 2 4 6 |
| 4 | . | 0 7 6 7 1 2 3 2 8 |
| 5 | . | 0 9 5 8 9 0 4 1 0 |
| 6 | . | 1 1 5 0 6 8 4 9 3 |
| 7 | . | 1 3 4 2 4 6 5 7 5 |
| 8 | . | 1 5 3 4 2 4 6 5 7 |
| 9 | . | 1 7 2 6 0 2 7 3 9 |

Eight

## Eight Days.

| | |
|---|---|
| 1 | . 0 2 1 9 1 7 8 0 8 |
| 2 | . 0 4 3 8 3 5 6 1 6 |
| 3 | . 0 6 5 7 5 3 4 2 4 |
| 4 | . 0 8 7 6 7 1 2 3 2 |
| 5 | . 1 0 9 5 8 9 0 4 1 |
| 6 | . 1 3 1 5 0 6 8 4 9 |
| 7 | . 1 5 3 4 2 4 6 5 7 |
| 8 | . 1 7 5 3 4 2 4 6 5 |
| 9 | . 1 9 7 2 6 0 2 7 3 |

## Nine Days.

| | |
|---|---|
| 1 | . 0 2 4 6 5 7 5 3 4 |
| 2 | . 0 4 9 3 1 5 0 6 8 |
| 3 | . 0 7 3 9 7 2 6 0 2 |
| 4 | . 0 9 8 6 3 0 1 3 6 |
| 5 | . 1 2 3 2 8 7 6 7 1 |
| 6 | . 1 4 7 9 4 5 2 0 5 |
| 7 | . 1 7 2 6 0 2 7 3 9 |
| 8 | . 1 9 7 2 6 0 2 7 3 |
| 9 | . 2 2 1 9 1 7 8 0 8 |

Ten

## Ten Days.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 0 | 2 | 7 | 3 | 9 | 7 | 2 | 6 | 0 |
| 2 | . | 0 | 5 | 4 | 7 | 9 | 4 | 5 | 2 | 0 |
| 3 | . | 0 | 8 | 2 | 1 | 9 | 1 | 7 | 8 | 0 |
| 4 | . | 1 | 0 | 9 | 5 | 8 | 9 | 0 | 4 | 1 |
| 5 | . | 1 | 3 | 6 | 9 | 8 | 6 | 3 | 0 | 1 |
| 6 | . | 1 | 6 | 4 | 3 | 8 | 3 | 5 | 6 | 1 |
| 7 | . | 1 | 9 | 1 | 7 | 8 | 0 | 8 | 2 | 1 |
| 8 | . | 2 | 1 | 9 | 1 | 7 | 8 | 0 | 8 | 2 |
| 9 | . | 2 | 4 | 6 | 5 | 7 | 5 | 3 | 4 | 2 |

## Eleven Days.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 0 | 3 | 0 | 1 | 3 | 6 | 9 | 8 | 6 |
| 2 | . | 0 | 6 | 0 | 2 | 7 | 3 | 9 | 7 | 2 |
| 3 | . | 0 | 9 | 0 | 4 | 1 | 0 | 9 | 5 | 8 |
| 4 | . | 1 | 2 | 0 | 5 | 4 | 7 | 9 | 4 | 5 |
| 5 | . | 1 | 5 | 0 | 6 | 8 | 4 | 9 | 3 | 1 |
| 6 | . | 1 | 8 | 0 | 8 | 2 | 1 | 9 | 1 | 7 |
| 7 | . | 2 | 1 | 0 | 9 | 5 | 8 | 9 | 0 | 4 |
| 8 | . | 2 | 4 | 1 | 0 | 9 | 5 | 8 | 9 | 0 |
| 9 | . | 2 | 7 | 1 | 2 | 3 | 2 | 8 | 7 | 6 |

Twelve

## Twelve Days.

|   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 0 | 3 | 2 | 8 | 7 | 6 | 7 | 1 | 2 |
| 2 | . | 0 | 6 | 5 | 7 | 5 | 3 | 4 | 2 | 4 |
| 3 | . | 0 | 9 | 8 | 6 | 3 | 0 | 1 | 3 | 6 |
| 4 | . | 1 | 3 | 1 | 5 | 0 | 6 | 8 | 4 | 9 |
| 5 | . | 1 | 6 | 4 | 3 | 8 | 3 | 5 | 6 | 1 |
| 6 | . | 1 | 9 | 7 | 2 | 6 | 0 | 2 | 7 | 3 |
| 7 | . | 2 | 3 | 0 | 1 | 3 | 6 | 9 | 8 | 6 |
| 8 | . | 2 | 6 | 3 | 0 | 1 | 3 | 6 | 9 | 8 |
| 9 | . | 2 | 9 | 5 | 8 | 9 | 0 | 4 | 1 | 0 |

## Thirteen Days.

|   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 0 | 3 | 5 | 6 | 1 | 6 | 4 | 3 | 8 |
| 2 | . | 0 | 7 | 1 | 2 | 3 | 2 | 8 | 7 | 6 |
| 3 | . | 1 | 0 | 6 | 8 | 4 | 9 | 3 | 1 | 5 |
| 4 | . | 1 | 4 | 2 | 4 | 6 | 5 | 7 | 5 | 3 |
| 5 | . | 1 | 7 | 8 | 0 | 8 | 2 | 1 | 9 | 1 |
| 6 | . | 2 | 1 | 3 | 6 | 9 | 8 | 6 | 3 | 0 |
| 7 | . | 2 | 4 | 9 | 3 | 1 | 5 | 0 | 6 | 8 |
| 8 | . | 2 | 8 | 4 | 9 | 3 | 1 | 5 | 0 | 6 |
| 9 | . | 3 | 2 | 0 | 5 | 4 | 7 | 9 | 4 | 5 |

Fourteen

## Fourteen Days.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 0 3 8 3 5 6 1 6 4 |
| 2 | . | 0 7 6 7 1 2 3 2 8 |
| 3 | . | 1 1 5 0 6 8 4 9 3 |
| 4 | . | 1 5 3 4 2 4 6 5 7 |
| 5 | . | 1 9 1 7 8 0 8 2 1 |
| 6 | . | 2 3 0 1 3 6 9 8 6 |
| 7 | . | 2 6 8 4 9 3 1 5 0 |
| 8 | . | 3 0 6 8 4 9 3 1 5 |
| 9 | . | 3 4 5 2 0 5 4 7 9 |

## Fifteen Days.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 0 4 1 0 9 5 8 9 0 |
| 2 | . | 0 8 2 1 9 1 7 8 0 |
| 3 | . | 1 2 3 2 8 7 6 7 1 |
| 4 | . | 1 6 4 3 8 3 5 6 1 |
| 5 | . | 2 0 5 4 7 9 4 5 2 |
| 6 | . | 2 4 6 5 7 5 3 4 2 |
| 7 | . | 2 8 7 6 7 1 2 3 2 |
| 8 | . | 3 2 8 7 6 7 1 2 3 |
| 9 | . | 3 6 9 8 6 3 0 1 3 |

## Sixteen Days.

| | |
|---|---|
| 1 | .043835616 |
| 2 | .087671232 |
| 3 | .131506849 |
| 4 | .175342465 |
| 5 | .219178082 |
| 6 | .263013698 |
| 7 | .306849315 |
| 8 | .350684931 |
| 9 | .394520547 |

## Seventeen Days.

| | |
|---|---|
| 1 | .046575342 |
| 2 | .093150684 |
| 3 | .139726027 |
| 4 | .186301369 |
| 5 | .232876712 |
| 6 | .279452054 |
| 7 | .326027397 |
| 8 | .372602739 |
| 9 | .419178082 |

Eighteen

## Eighteen Days.

```
    . 0 4 9 3 1 5 0 6 8
1   . 0 9 8 6 3 0 1 3 6
2   . 1 4 7 9 4 5 2 0 5
3   . 1 9 7 2 6 0 2 7 3
4   . 2 4 6 5 7 5 3 4 2
6   . 2 9 5 8 9 0 4 1 0
7   . 3 4 5 2 0 5 4 7 9
8   . 3 9 4 5 2 0 5 4 7
9   . 4 4 3 8 3 5 6 1 6
```

## Nineteen Days.

```
1   . 0 5 2 0 5 4 7 9 4
2   . 1 0 4 1 0 9 5 8 9
3   . 1 5 6 1 6 4 3 8 3
4   . 2 0 8 2 1 9 1 7 8
5   . 2 6 0 2 7 3 9 7 2
6   . 3 1 2 3 2 8 7 6 7
7   . 3 6 4 3 8 3 5 6 1
8   . 4 1 6 4 3 8 3 5 6
9   . 4 6 8 4 9 3 1 5 0
```

Twenty

## Twenty Days.

| | |
|---|---|
| 1 | . 0 5 4 7 9 4 5 2 0 |
| 2 | . 1 0 9 5 8 9 0 4 1 |
| 3 | . 1 6 4 3 8 3 5 6 1 |
| 4 | . 2 1 9 1 7 8 0 8 2 |
| 5 | . 2 7 3 9 7 2 6 0 2 |
| 6 | . 3 2 8 7 6 7 1 2 3 |
| 7 | . 3 8 3 5 6 1 6 4 3 |
| 8 | . 4 3 8 3 5 6 1 6 4 |
| 9 | . 4 9 3 1 5 0 6 8 4 |

## Twenty-one Days.

| | |
|---|---|
| 1 | . 0 5 7 5 3 4 2 4 6 |
| 2 | . 1 1 5 0 6 8 4 9 3 |
| 3 | . 1 7 2 6 0 2 7 3 9 |
| 4 | . 2 3 0 1 3 6 9 8 6 |
| 5 | . 2 8 7 6 7 1 2 3 2 |
| 6 | . 3 4 5 2 0 5 4 7 9 |
| 7 | . 4 0 2 7 3 9 7 2 6 |
| 8 | . 4 6 0 2 7 3 9 7 2 |
| 9 | . 5 1 7 8 0 8 2 1 9 |

Twenty-

## Twenty-two Days.

| | |
|---|---|
| 1 | . 0 6 0 2 7 3 9 7 2 |
| 2 | . 1 2 0 5 4 7 9 4 5 |
| 3 | . 1 8 0 8 2 1 9 1 7 |
| 4 | . 2 4 1 0 9 5 8 9 0 |
| 5 | . 3 0 1 3 6 9 8 6 3 |
| 6 | . 3 6 1 6 4 3 8 3 5 |
| 7 | . 4 2 1 9 1 7 8 0 8 |
| 8 | . 4 8 2 1 9 1 7 8 0 |
| 9 | . 5 4 2 4 6 5 7 5 3 |

## Twenty-three Days.

| | |
|---|---|
| 1 | . 0 6 3 0 1 3 6 9 8 |
| 2 | . 1 2 6 0 2 7 3 9 7 |
| 3 | . 1 8 9 0 4 1 0 9 5 |
| 4 | . 2 5 2 0 5 4 7 9 4 |
| 5 | . 3 1 5 0 6 8 4 9 3 |
| 6 | . 3 7 8 0 8 2 1 9 1 |
| 7 | . 4 4 1 0 9 5 8 9 0 |
| 8 | . 5 0 4 1 0 9 5 8 9 |
| 9 | . 5 6 7 1 2 3 2 8 7 |

Twenty-

## Twenty-four Days.

| | |
|---|---|
| 1 | . 0 6 5 7 5 3 4 2 4 |
| 2 | . 1 3 1 5 0 6 8 4 9 |
| 3 | . 1 9 7 2 6 0 2 7 3 |
| 4 | . 2 6 3 0 1 3 6 9 8 |
| 5 | . 3 2 8 7 6 7 1 2 3 |
| 6 | . 3 9 4 5 2 0 5 4 7 |
| 7 | . 4 6 0 2 7 3 9 7 2 |
| 8 | . 5 2 6 0 2 7 3 9 7 |
| 9 | . 5 9 1 7 8 0 8 2 1 |

## Twenty-five Days.

| | |
|---|---|
| 1 | . 0 6 8 4 9 3 1 5 0 |
| 2 | . 1 3 6 9 8 6 3 0 1 |
| 3 | . 2 0 5 4 7 9 4 5 2 |
| 4 | . 2 7 3 9 7 2 6 0 2 |
| 5 | . 3 4 2 4 6 5 7 5 3 |
| 6 | . 4 1 0 9 5 8 9 0 4 |
| 7 | . 4 7 9 4 5 2 0 5 4 |
| 8 | . 5 4 7 9 4 5 2 0 5 |
| 9 | . 6 1 6 4 3 8 3 5 6 |

F       Twenty-

## Twenty-six Days.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 0 | 7 | 1 | 2 | 3 | 2 | 8 | 7 | 6 |
| 2 | . | 1 | 4 | 2 | 4 | 6 | 5 | 7 | 5 | 3 |
| 3 | . | 2 | 1 | 3 | 6 | 9 | 8 | 6 | 3 | 0 |
| 4 | . | 2 | 8 | 4 | 9 | 3 | 1 | 5 | 0 | 6 |
| 5 | . | 3 | 5 | 6 | 1 | 6 | 4 | 3 | 8 | 3 |
| 6 | . | 4 | 2 | 7 | 3 | 9 | 7 | 2 | 6 | 0 |
| 7 | . | 4 | 9 | 8 | 6 | 3 | 0 | 1 | 3 | 6 |
| 8 | . | 5 | 6 | 9 | 8 | 6 | 3 | 0 | 1 | 3 |
| 9 | . | 6 | 4 | 1 | 0 | 9 | 5 | 8 | 9 | 0 |

## Twenty-seven Days.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 0 | 7 | 3 | 9 | 7 | 2 | 6 | 0 | 2 |
| 2 | . | 1 | 4 | 7 | 9 | 4 | 5 | 2 | 0 | 5 |
| 3 | . | 2 | 2 | 1 | 9 | 1 | 7 | 8 | 0 | 8 |
| 4 | . | 2 | 9 | 5 | 8 | 9 | 0 | 4 | 1 | 0 |
| 5 | . | 3 | 6 | 9 | 8 | 6 | 3 | 0 | 1 | 3 |
| 6 | . | 4 | 4 | 3 | 8 | 3 | 5 | 6 | 1 | 6 |
| 7 | . | 5 | 1 | 7 | 8 | 0 | 8 | 2 | 1 | 9 |
| 8 | . | 5 | 9 | 1 | 7 | 8 | 0 | 8 | 2 | 1 |
| 9 | . | 6 | 6 | 5 | 7 | 5 | 3 | 4 | 2 | 4 |

Twenty-

## Twenty-eight Days.

| | |
|---|---|
| 1 | .0767123 28 |
| 2 | .1534246 57 |
| 3 | .2301369 86 |
| 4 | .3068493 15 |
| 5 | .3835616 43 |
| 6 | .4602739 72 |
| 7 | .5369863 01 |
| 8 | .6136986 30 |
| 9 | .6904109 58 |

## Twenty-nine Days.

| | |
|---|---|
| 1 | .0795420 54 |
| 2 | .1589041 09 |
| 3 | .2383561 64 |
| 4 | .3178082 19 |
| 5 | .3972602 73 |
| 6 | .4767123 28 |
| 7 | .5561643 83 |
| 8 | .6356164 38 |
| 9 | .7150684 93 |

F 2                                    Thirty

## Thirty Days.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 0 | 8 | 2 | 1 | 9 | 1 | 7 | 8 | 0 |
| 2 | . | 1 | 6 | 4 | 3 | 8 | 3 | 5 | 6 | 1 |
| 3 | . | 2 | 4 | 6 | 5 | 7 | 5 | 3 | 4 | 2 |
| 4 | . | 3 | 2 | 8 | 7 | 6 | 7 | 1 | 2 | 3 |
| 5 | . | 4 | 1 | 0 | 9 | 5 | 8 | 9 | 0 | 4 |
| 6 | . | 4 | 9 | 3 | 1 | 5 | 0 | 6 | 8 | 4 |
| 7 | . | 5 | 7 | 5 | 3 | 4 | 2 | 4 | 6 | 5 |
| 8 | . | 6 | 5 | 7 | 5 | 3 | 4 | 2 | 4 | 6 |
| 9 | . | 7 | 3 | 9 | 7 | 2 | 6 | 0 | 2 | 7 |

## Thirty-one Days.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 0 | 8 | 4 | 9 | 3 | 1 | 5 | 0 | 6 |
| 2 | . | 1 | 6 | 9 | 8 | 6 | 3 | 0 | 1 | 3 |
| 3 | . | 2 | 5 | 4 | 7 | 9 | 4 | 5 | 2 | 0 |
| 4 | . | 3 | 3 | 9 | 7 | 2 | 6 | 0 | 2 | 7 |
| 5 | . | 4 | 2 | 4 | 6 | 5 | 7 | 5 | 3 | 4 |
| 6 | . | 5 | 0 | 9 | 5 | 8 | 9 | 0 | 4 | 1 |
| 7 | . | 5 | 9 | 4 | 5 | 2 | 0 | 5 | 4 | 7 |
| 8 | . | 6 | 7 | 9 | 4 | 5 | 2 | 0 | 5 | 4 |
| 9 | . | 7 | 6 | 4 | 3 | 8 | 3 | 5 | 6 | 1 |

Thirty-

## Thirty-two Days.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 0 | 8 | 7 | 6 | 7 | 1 | 2 | 3 | 2 |
| 2 | . | 1 | 7 | 5 | 3 | 4 | 2 | 4 | 6 | 5 |
| 3 | . | 2 | 6 | 3 | 0 | 1 | 3 | 6 | 9 | 8 |
| 4 | . | 3 | 5 | 0 | 6 | 8 | 4 | 9 | 3 | 1 |
| 5 | . | 4 | 3 | 8 | 3 | 5 | 6 | 1 | 6 | 4 |
| 6 | . | 5 | 2 | 6 | 0 | 2 | 7 | 3 | 9 | 7 |
| 7 | . | 6 | 1 | 3 | 6 | 9 | 8 | 6 | 3 | 0 |
| 8 | . | 7 | 0 | 1 | 3 | 6 | 9 | 8 | 6 | 3 |
| 9 | . | 7 | 8 | 9 | 0 | 4 | 1 | 0 | 9 | 5 |

## Thirty-three Days.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 0 | 9 | 0 | 4 | 1 | 0 | 9 | 5 | 8 |
| 2 | . | 1 | 8 | 0 | 8 | 2 | 1 | 9 | 1 | 7 |
| 3 | . | 2 | 7 | 1 | 2 | 3 | 2 | 8 | 7 | 6 |
| 4 | . | 3 | 6 | 1 | 6 | 4 | 3 | 8 | 3 | 5 |
| 5 | . | 4 | 5 | 2 | 0 | 5 | 4 | 7 | 9 | 4 |
| 6 | . | 5 | 4 | 2 | 4 | 6 | 5 | 7 | 5 | 3 |
| 7 | . | 6 | 3 | 2 | 8 | 7 | 6 | 7 | 1 | 2 |
| 8 | . | 7 | 2 | 3 | 2 | 8 | 7 | 6 | 7 | 1 |
| 9 | . | 8 | 1 | 3 | 6 | 9 | 8 | 6 | 3 | 0 |

F 3

Thirty-

## Thirty-four Days.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 0 | 9 | 3 | 1 | 5 | 0 | 6 | 8 | 4 |
| 2 | . | 1 | 8 | 6 | 3 | 0 | 1 | 3 | 6 | 9 |
| 3 | . | 2 | 7 | 9 | 4 | 5 | 2 | 0 | 5 | 4 |
| 4 | . | 3 | 7 | 2 | 6 | 0 | 2 | 7 | 3 | 9 |
| 5 | . | 4 | 6 | 5 | 7 | 5 | 3 | 4 | 2 | 4 |
| 6 | . | 5 | 5 | 8 | 9 | 0 | 4 | 1 | 0 | 9 |
| 7 | . | 6 | 5 | 2 | 0 | 5 | 4 | 7 | 9 | 4 |
| 8 | . | 7 | 4 | 5 | 2 | 0 | 5 | 4 | 7 | 9 |
| 9 | . | 8 | 3 | 8 | 3 | 5 | 6 | 1 | 6 | 4 |

## Thirty-five Days.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 0 | 9 | 5 | 8 | 9 | 0 | 4 | 1 | 0 |
| 2 | . | 1 | 9 | 1 | 7 | 8 | 0 | 8 | 2 | 1 |
| 3 | . | 2 | 8 | 7 | 6 | 7 | 1 | 2 | 3 | 2 |
| 4 | . | 3 | 8 | 3 | 5 | 6 | 1 | 6 | 4 | 3 |
| 5 | . | 4 | 7 | 9 | 4 | 5 | 2 | 0 | 5 | 4 |
| 6 | . | 5 | 7 | 5 | 3 | 4 | 2 | 4 | 6 | 5 |
| 7 | . | 6 | 7 | 1 | 2 | 3 | 2 | 8 | 7 | 6 |
| 8 | . | 7 | 6 | 7 | 1 | 2 | 3 | 2 | 8 | 7 |
| 9 | . | 8 | 6 | 3 | 0 | 1 | 3 | 6 | 9 | 8 |

Thirty-

## Thirty-six Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 0 | 9 | 8 | 6 | 3 | 0 | 1 | 3 | 6 |
| 2 | . | 1 | 9 | 7 | 2 | 6 | 0 | 2 | 7 | 3 |
| 3 | . | 2 | 9 | 5 | 8 | 9 | 0 | 4 | 1 | 0 |
| 4 | . | 3 | 9 | 4 | 5 | 2 | 0 | 5 | 4 | 7 |
| 5 | . | 4 | 9 | 3 | 1 | 5 | 0 | 6 | 8 | 4 |
| 6 | . | 5 | 9 | 1 | 7 | 8 | 0 | 8 | 2 | 1 |
| 7 | . | 6 | 9 | 0 | 4 | 1 | 0 | 9 | 5 | 8 |
| 8 | . | 7 | 8 | 9 | 0 | 4 | 1 | 0 | 9 | 5 |
| 9 | . | 8 | 8 | 7 | 6 | 7 | 1 | 2 | 3 | 2 |

## Thirty-seven Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 0 | 1 | 3 | 6 | 9 | 8 | 6 | 3 |
| 2 | . | 2 | 0 | 2 | 7 | 3 | 9 | 7 | 2 | 6 |
| 3 | . | 3 | 0 | 4 | 1 | 0 | 9 | 5 | 8 | 9 |
| 4 | . | 4 | 0 | 5 | 4 | 7 | 9 | 4 | 5 | 2 |
| 5 | . | 5 | 0 | 6 | 8 | 4 | 9 | 3 | 1 | 5 |
| 6 | . | 6 | 0 | 8 | 2 | 1 | 9 | 1 | 7 | 8 |
| 7 | . | 7 | 0 | 9 | 5 | 8 | 9 | 0 | 4 | 1 |
| 8 | . | 8 | 1 | 0 | 9 | 5 | 8 | 9 | 0 | 4 |
| 9 | . | 9 | 1 | 2 | 3 | 2 | 8 | 7 | 6 | 7 |

F 4 Thirty-

## Thirty-eight Days.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | . 1 | 0 | 4 | 1 | 0 | 9 | 5 | 8 9 |
| 2 | . 2 | 0 | 8 | 2 | 1 | 9 | 1 | 7 8 |
| 3 | . 3 | 1 | 2 | 3 | 2 | 8 | 7 | 6 7 |
| 4 | . 4 | 1 | 6 | 4 | 3 | 8 | 3 | 5 6 |
| 5 | . 5 | 2 | 0 | 5 | 4 | 7 | 9 | 4 5 |
| 6 | . 6 | 2 | 4 | 6 | 5 | 7 | 5 | 3 4 |
| 7 | . 7 | 2 | 8 | 7 | 6 | 7 | 1 | 2 3 |
| 8 | . 8 | 3 | 2 | 8 | 7 | 6 | 7 | 1 2 |
| 9 | . 9 | 3 | 6 | 9 | 8 | 6 | 3 | 0 1 |

## Thirty-nine Days.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | . 1 | 0 | 6 | 8 | 4 | 9 | 3 | 1 5 |
| 2 | . 2 | 1 | 3 | 6 | 9 | 8 | 6 | 3 0 |
| 3 | . 3 | 2 | 0 | 5 | 4 | 7 | 9 | 4 5 |
| 4 | . 4 | 2 | 7 | 3 | 9 | 7 | 2 | 6 0 |
| 5 | . 5 | 3 | 4 | 2 | 4 | 6 | 5 | 7 5 |
| 6 | . 6 | 4 | 1 | 0 | 9 | 5 | 8 | 9 0 |
| 7 | . 7 | 4 | 7 | 9 | 4 | 5 | 2 | 0 5 |
| 8 | . 8 | 5 | 4 | 7 | 9 | 4 | 5 | 2 0 |
| 9 | . 9 | 6 | 1 | 6 | 4 | 3 | 8 | 3 5 |

Forty

## Forty Days.

|   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 0 | 9 | 5 | 8 | 9 | 0 | 4 | 1 |
| 2 | . | 2 | 1 | 9 | 1 | 7 | 8 | 0 | 8 | 2 |
| 3 | . | 3 | 2 | 8 | 7 | 6 | 7 | 1 | 2 | 3 |
| 4 | . | 4 | 3 | 8 | 3 | 5 | 6 | 1 | 6 | 4 |
| 5 | . | 5 | 4 | 7 | 9 | 4 | 5 | 2 | 0 | 5 |
| 6 | . | 6 | 5 | 7 | 5 | 3 | 4 | 2 | 4 | 6 |
| 7 | . | 7 | 6 | 7 | 1 | 2 | 3 | 2 | 8 | 7 |
| 8 | . | 8 | 7 | 6 | 7 | 1 | 2 | 3 | 2 | 8 |
| 9 | . | 9 | 8 | 6 | 3 | 0 | 1 | 3 | 6 | 9 |

## Forty-one Days.

|   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 1 | 2 | 3 | 2 | 8 | 7 | 6 | 7 |
| 2 | . | 2 | 2 | 4 | 6 | 5 | 7 | 5 | 3 | 4 |
| 3 | . | 3 | 3 | 6 | 9 | 8 | 6 | 3 | 0 | 1 |
| 4 | . | 4 | 4 | 9 | 3 | 1 | 5 | 0 | 6 | 8 |
| 5 | . | 5 | 6 | 1 | 6 | 4 | 3 | 8 | 3 | 5 |
| 6 | . | 6 | 7 | 3 | 9 | 7 | 2 | 6 | 0 | 2 |
| 7 | . | 7 | 8 | 6 | 3 | 0 | 1 | 3 | 6 | 9 |
| 8 | . | 8 | 9 | 8 | 6 | 3 | 0 | 1 | 3 | 6 |
| 9 | 1 . | 0 | 1 | 0 | 9 | 5 | 8 | 9 | 0 | 4 |

Forty-

### Forty-two Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 1 | 5 | 0 | 6 | 8 | 4 | 9 | 3 |
| 2 | . | 2 | 3 | 0 | 1 | 3 | 6 | 9 | 8 | 6 |
| 3 | . | 3 | 4 | 5 | 2 | 0 | 5 | 4 | 7 | 9 |
| 4 | . | 4 | 6 | 0 | 2 | 7 | 3 | 9 | 7 | 2 |
| 5 | . | 5 | 7 | 5 | 3 | 4 | 2 | 4 | 6 | 5 |
| 6 | . | 6 | 9 | 0 | 4 | 1 | 0 | 9 | 5 | 8 |
| 7 | . | 8 | 0 | 5 | 4 | 7 | 9 | 4 | 5 | 2 |
| 8 | . | 9 | 2 | 0 | 5 | 4 | 7 | 9 | 4 | 5 |
| 9 | 1. | 0 | 3 | 5 | 6 | 1 | 6 | 4 | 3 | 8 |

### Forty-three Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 1 | 7 | 8 | 0 | 8 | 2 | 1 | 9 |
| 2 | . | 2 | 3 | 5 | 6 | 1 | 6 | 4 | 3 | 8 |
| 3 | . | 3 | 5 | 3 | 4 | 2 | 4 | 6 | 5 | 7 |
| 4 | . | 4 | 7 | 1 | 2 | 3 | 2 | 8 | 7 | 6 |
| 5 | . | 5 | 8 | 9 | 0 | 4 | 1 | 0 | 9 | 5 |
| 6 | . | 7 | 0 | 6 | 8 | 4 | 9 | 3 | 1 | 5 |
| 7 | . | 8 | 2 | 4 | 6 | 5 | 7 | 5 | 3 | 4 |
| 8 | . | 9 | 4 | 2 | 4 | 6 | 5 | 7 | 5 | 3 |
| 9 | 1. | 0 | 6 | 0 | 2 | 7 | 3 | 9 | 7 | 2 |

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## Forty-four Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | . | 1 | 2 | 0 | 5 | 4 | 7 | 9 | 4 5 |
| 2 | | . | 2 | 4 | 1 | 0 | 9 | 5 | 8 | 9 0 |
| 3 | | . | 3 | 6 | 1 | 6 | 4 | 3 | 8 | 3 5 |
| 4 | | . | 4 | 8 | 2 | 1 | 9 | 1 | 7 | 8 0 |
| 5 | | . | 6 | 0 | 2 | 7 | 3 | 9 | 7 | 2 6 |
| 6 | | . | 7 | 2 | 3 | 2 | 8 | 7 | 6 | 7 1 |
| 7 | | . | 8 | 4 | 3 | 8 | 3 | 5 | 6 | 1 6 |
| 8 | | . | 9 | 6 | 4 | 3 | 8 | 3 | 5 | 6 1 |
| 9 | 1 | . | 0 | 8 | 4 | 9 | 3 | 1 | 5 | 0 6 |

## Forty-five Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | . | 1 | 2 | 3 | 2 | 8 | 7 | 6 | 7 1 |
| 2 | | . | 2 | 4 | 6 | 5 | 7 | 5 | 3 | 4 2 |
| 3 | | . | 3 | 6 | 9 | 8 | 6 | 3 | 0 | 1 3 |
| 4 | | . | 4 | 9 | 3 | 1 | 5 | 0 | 6 | 8 4 |
| 5 | | . | 6 | 1 | 6 | 4 | 3 | 8 | 3 | 5 6 |
| 6 | | . | 7 | 3 | 9 | 7 | 2 | 6 | 0 | 2 7 |
| 7 | | . | 8 | 6 | 3 | 0 | 1 | 3 | 6 | 9 8 |
| 8 | | . | 9 | 8 | 6 | 3 | 0 | 1 | 3 | 6 9 |
| 9 | 1 | . | 1 | 0 | 9 | 5 | 8 | 9 | 0 | 4 1 |

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# APPENDIX.

## Forty-six Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 2 | 6 | 0 | 2 | 7 | 3 | 9 | 7 |
| 2 | . | 2 | 5 | 2 | 0 | 5 | 4 | 7 | 9 | 4 |
| 3 | . | 3 | 7 | 8 | 0 | 8 | 2 | 1 | 9 | 1 |
| 4 | . | 5 | 0 | 4 | 1 | 0 | 9 | 5 | 8 | 9 |
| 5 | . | 6 | 3 | 0 | 1 | 3 | 6 | 9 | 8 | 6 |
| 6 | . | 7 | 5 | 6 | 1 | 6 | 4 | 3 | 8 | 3 |
| 7 | . | 8 | 8 | 2 | 1 | 9 | 1 | 7 | 8 | 0 |
| 8 | 1. | 0 | 0 | 8 | 2 | 1 | 9 | 1 | 7 | 8 |
| 9 | 1. | 1 | 3 | 4 | 2 | 4 | 6 | 5 | 7 | 5 |

## Forty-seven Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 2 | 8 | 7 | 6 | 7 | 1 | 2 | 3 |
| 2 | . | 2 | 5 | 7 | 5 | 3 | 4 | 2 | 4 | 6 |
| 3 | . | 3 | 8 | 6 | 3 | 0 | 1 | 3 | 6 | 9 |
| 4 | . | 5 | 1 | 5 | 0 | 6 | 8 | 4 | 9 | 3 |
| 5 | . | 6 | 4 | 3 | 8 | 3 | 5 | 6 | 1 | 6 |
| 6 | . | 7 | 7 | 2 | 6 | 0 | 2 | 7 | 3 | 9 |
| 7 | . | 9 | 0 | 1 | 3 | 6 | 9 | 8 | 6 | 3 |
| 8 | 1. | 0 | 3 | 0 | 1 | 3 | 6 | 9 | 8 | 6 |
| 9 | 1. | 1 | 5 | 8 | 9 | 0 | 4 | 1 | 0 | 9 |

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## Forty-eight Days.

| 1 | . 1 3 1 5 0 6 8 4 9 |
| 2 | . 2 6 3 0 1 3 6 9 8 |
| 3 | . 3 9 4 5 2 0 5 4 7 |
| 4 | . 5 2 6 0 2 7 3 9 7 |
| 5 | . 6 5 7 5 3 4 2 4 6 |
| 6 | . 7 8 9 0 4 1 0 9 5 |
| 7 | . 9 2 0 5 4 7 9 4 5 |
| 8 | 1 . 0 5 2 0 5 4 7 9 4 |
| 9 | 1 . 1 8 3 5 6 1 6 4 3 |

## Forty-nine Days.

| 1 | . 1 3 4 2 4 6 5 7 5 |
| 2 | . 2 6 8 4 9 3 1 5 0 |
| 3 | . 4 0 2 7 3 9 7 2 6 |
| 4 | . 5 3 6 9 8 6 3 0 1 |
| 5 | . 6 7 1 2 3 2 8 7 6 |
| 6 | . 8 0 5 4 7 9 4 5 2 |
| 7 | . 9 3 9 7 2 6 0 2 7 |
| 8 | 1 . 0 7 3 9 7 2 6 0 2 |
| 9 | 1 . 2 0 8 2 1 9 1 7 8 |

Fifty

## Fifty Days.

```
1 |   . 1 3 6 9 8 6 3 0 1
2 |   . 2 7 3 9 7 2 6 0 2
3 |   . 4 1 0 9 5 8 9 0 4
4 |   . 5 4 7 9 4 5 2 0 5
5 |   . 6 8 4 9 3 1 5 0 6
6 |   . 8 2 1 9 1 7 8 0 8
7 |   . 9 5 8 9 0 4 1 0 9
8 | 1 . 0 9 5 8 9 0 4 1 0
9 | 1 . 2 3 2 8 7 6 7 1 2
```

## Fifty-one Days.

```
1 |   . 1 3 9 7 2 6 0 2 7
2 |   . 2 7 9 4 5 2 0 5 4
3 |   . 4 1 9 1 7 8 0 8 2
4 |   . 5 5 8 9 0 4 1 0 9
5 |   . 6 9 8 6 3 0 1 3 6
6 |   . 8 3 8 3 5 6 1 6 4
7 |   . 9 7 8 0 8 2 1 9 1
8 | 1 . 1 1 7 8 0 8 2 1 9
9 | 1 . 2 5 7 5 3 4 2 4 6
```

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## Fifty-two Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | . 1 | 4 | 2 | 4 | 6 | 5 | 7 | 5 | 3 |
| 2 | | . 2 | 8 | 4 | 9 | 3 | 1 | 5 | 0 | 6 |
| 3 | | . 4 | 2 | 7 | 3 | 9 | 7 | 2 | 6 | 0 |
| 4 | | . 5 | 6 | 9 | 8 | 6 | 3 | 0 | 1 | 3 |
| 5 | | . 7 | 1 | 2 | 3 | 2 | 8 | 7 | 6 | 7 |
| 6 | | . 8 | 5 | 4 | 7 | 9 | 4 | 5 | 2 | 0 |
| 7 | | . 9 | 9 | 7 | 2 | 6 | 0 | 2 | 7 | 3 |
| 8 | 1 | . 1 | 3 | 9 | 7 | 2 | 6 | 0 | 2 | 7 |
| 9 | 1 | . 2 | 8 | 2 | 1 | 9 | 1 | 7 | 8 | 0 |

## Fifty-three Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | . 1 | 4 | 5 | 2 | 0 | 5 | 4 | 7 | 9 |
| 2 | | . 2 | 9 | 0 | 4 | 1 | 0 | 9 | 5 | 8 |
| 3 | | . 4 | 3 | 5 | 6 | 1 | 6 | 4 | 3 | 8 |
| 4 | | . 5 | 8 | 0 | 8 | 2 | 1 | 9 | 1 | 7 |
| 5 | | . 7 | 2 | 6 | 0 | 2 | 7 | 3 | 9 | 7 |
| 6 | | . 8 | 7 | 1 | 2 | 3 | 2 | 8 | 7 | 6 |
| 7 | 1 | . 0 | 1 | 6 | 4 | 3 | 8 | 3 | 5 | 6 |
| 8 | 1 | . 1 | 6 | 1 | 6 | 4 | 3 | 8 | 3 | 5 |
| 9 | 1 | . 3 | 0 | 6 | 8 | 4 | 9 | 3 | 1 | 5 |

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## Fifty-four Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 4 | 7 | 9 | 4 | 5 | 2 | 0 | 5 |
| 2 | . | 2 | 9 | 5 | 8 | 9 | 0 | 4 | 1 | 0 |
| 3 | . | 4 | 4 | 3 | 8 | 3 | 5 | 6 | 1 | 6 |
| 4 | . | 5 | 9 | 1 | 7 | 8 | 0 | 8 | 2 | 1 |
| 5 | . | 7 | 3 | 9 | 7 | 2 | 6 | 0 | 2 | 7 |
| 6 | . | 8 | 8 | 7 | 6 | 7 | 1 | 2 | 3 | 2 |
| 7 | 1 | . | 0 | 3 | 5 | 6 | 1 | 6 | 4 | 3 | 8 |
| 8 | 1 | . | 1 | 8 | 3 | 5 | 6 | 1 | 6 | 4 | 3 |
| 9 | 1 | . | 3 | 3 | 1 | 5 | 0 | 6 | 8 | 4 | 9 |

## Fifty-five Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 5 | 0 | 6 | 8 | 4 | 9 | 3 | 1 |
| 2 | . | 3 | 0 | 1 | 3 | 6 | 9 | 8 | 6 | 3 |
| 4 | . | 4 | 5 | 2 | 0 | 5 | 4 | 7 | 9 | 4 |
| 4 | . | 6 | 0 | 2 | 7 | 3 | 9 | 7 | 2 | 6 |
| 5 | . | 7 | 5 | 3 | 4 | 2 | 4 | 6 | 5 | 7 |
| 6 | . | 9 | 0 | 4 | 1 | 0 | 9 | 5 | 8 | 9 |
| 7 | 1 | . | 0 | 5 | 4 | 7 | 9 | 4 | 5 | 2 | 0 |
| 8 | 1 | . | 2 | 0 | 5 | 4 | 7 | 9 | 4 | 5 | 2 |
| 9 | 1 | . | 3 | 5 | 6 | 1 | 6 | 4 | 3 | 8 | 3 |

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## Fifty-six Days.

| | |
|---|---|
| 1 | . 1 5 3 4 2 4 6 5 7 |
| 2 | . 3 0 6 8 4 9 3 1 5 |
| 3 | . 4 6 0 2 7 3 9 7 2 |
| 4 | . 6 1 3 6 9 8 6 3 0 |
| 5 | . 7 6 7 1 2 3 2 8 7 |
| 6 | . 9 2 0 5 4 7 9 4 5 |
| 7 | 1 . 0 7 3 9 7 2 6 0 2 |
| 8 | 1 . 2 2 7 3 9 7 2 6 0 |
| 9 | 1 . 3 8 0 8 2 1 9 1 7 |

## Fifty-seven Days.

| | |
|---|---|
| 1 | . 1 5 6 1 6 4 3 8 3 |
| 2 | . 3 1 2 3 2 8 7 6 7 |
| 3 | . 4 6 8 4 9 3 1 5 0 |
| 4 | . 6 2 4 6 5 7 5 3 4 |
| 5 | . 7 8 0 8 2 1 9 1 7 |
| 6 | . 9 3 6 9 8 6 3 0 1 |
| 7 | 1 . 0 9 3 1 5 0 6 8 4 |
| 8 | 1 . 2 4 9 3 1 5 0 6 8 |
| 9 | 1 . 4 0 5 4 7 9 4 5 2 |

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## Fifty-eight Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 5 | 8 | 9 | 0 | 4 | 1 | 0 | 9 |
| 2 | . | 3 | 1 | 7 | 8 | 0 | 8 | 2 | 1 | 9 |
| 3 | . | 4 | 7 | 6 | 7 | 1 | 2 | 3 | 2 | 8 |
| 4 | . | 6 | 3 | 5 | 6 | 1 | 6 | 4 | 3 | 8 |
| 5 | . | 7 | 9 | 4 | 5 | 2 | 0 | 5 | 4 | 7 |
| 6 | . | 9 | 5 | 3 | 4 | 2 | 4 | 6 | 5 | 7 |
| 7 | 1 . | 1 | 1 | 2 | 3 | 2 | 8 | 7 | 6 | 7 |
| 8 | 1 . | 2 | 7 | 1 | 2 | 3 | 2 | 8 | 7 | 6 |
| 9 | 1 . | 4 | 3 | 0 | 1 | 3 | 6 | 9 | 8 | 6 |

## Fifty-nine Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 6 | 1 | 6 | 4 | 3 | 8 | 3 | 5 |
| 2 | . | 3 | 2 | 3 | 2 | 8 | 7 | 6 | 7 | 1 |
| 3 | . | 4 | 8 | 4 | 9 | 3 | 1 | 5 | 0 | 6 |
| 4 | . | 6 | 4 | 6 | 5 | 7 | 5 | 3 | 4 | 2 |
| 5 | . | 8 | 0 | 8 | 2 | 1 | 9 | 1 | 7 | 8 |
| 6 | . | 9 | 6 | 9 | 8 | 6 | 3 | 0 | 1 | 3 |
| 7 | 1 . | 1 | 3 | 1 | 5 | 0 | 6 | 8 | 4 | 9 |
| 8 | 1 . | 2 | 9 | 3 | 1 | 5 | 0 | 6 | 8 | 4 |
| 9 | 1 . | 4 | 5 | 4 | 7 | 9 | 4 | 5 | 2 | 0 |

## Sixty Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 6 | 4 | 3 | 8 | 3 | 5 | 6 | 1 |
| 2 | . | 3 | 2 | 8 | 7 | 6 | 7 | 1 | 2 | 3 |
| 3 | . | 4 | 9 | 3 | 1 | 5 | 0 | 6 | 8 | 4 |
| 4 | . | 6 | 5 | 7 | 5 | 3 | 4 | 2 | 4 | 6 |
| 5 | . | 8 | 2 | 1 | 9 | 1 | 7 | 8 | 0 | 8 |
| 6 | . | 9 | 8 | 6 | 3 | 0 | 1 | 3 | 6 | 9 |
| 7 | 1. | 1 | 5 | 0 | 6 | 8 | 4 | 9 | 3 | 1 |
| 8 | 1. | 3 | 1 | 5 | 0 | 6 | 8 | 4 | 9 | 3 |
| 9 | 1. | 4 | 7 | 9 | 4 | 5 | 2 | 0 | 5 | 4 |

## Sixty-one Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 6 | 7 | 1 | 2 | 3 | 2 | 8 | 7 |
| 2 | . | 3 | 3 | 4 | 2 | 4 | 6 | 5 | 7 | 5 |
| 3 | . | 5 | 0 | 1 | 3 | 6 | 9 | 8 | 6 | 3 |
| 4 | . | 6 | 6 | 8 | 4 | 9 | 3 | 1 | 5 | 0 |
| 5 | . | 8 | 3 | 5 | 6 | 1 | 6 | 4 | 3 | 8 |
| 6 | 1. | 0 | 0 | 2 | 7 | 3 | 9 | 7 | 2 | 6 |
| 7 | 1. | 1 | 6 | 9 | 8 | 6 | 3 | 0 | 1 | 3 |
| 8 | 1. | 3 | 3 | 6 | 9 | 8 | 6 | 3 | 0 | 1 |
| 9 | 1. | 5 | 0 | 4 | 1 | 0 | 9 | 5 | 8 | 9 |

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### Sixty-two Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 6 | 9 | 8 | 6 | 3 | 0 | 1 | 3 |
| 2 | . | 3 | 3 | 9 | 7 | 2 | 6 | 0 | 2 | 7 |
| 3 | . | 5 | 0 | 9 | 5 | 8 | 9 | 0 | 4 | 1 |
| 4 | . | 6 | 7 | 9 | 4 | 5 | 2 | 0 | 5 | 4 |
| 5 | . | 8 | 4 | 9 | 3 | 1 | 5 | 0 | 6 | 8 |
| 6 | 1 . | 0 | 1 | 9 | 1 | 7 | 8 | 0 | 8 | 2 |
| 7 | 1 . | 1 | 8 | 9 | 0 | 4 | 1 | 0 | 9 | 5 |
| 8 | 1 . | 3 | 5 | 8 | 9 | 0 | 4 | 1 | 0 | 9 |
| 9 | 1 . | 5 | 2 | 8 | 7 | 6 | 7 | 1 | 2 | 3 |

### Sixty-three Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 7 | 2 | 6 | 0 | 2 | 7 | 3 | 9 |
| 2 | . | 3 | 4 | 5 | 2 | 0 | 5 | 4 | 7 | 9 |
| 3 | . | 5 | 1 | 7 | 8 | 0 | 8 | 2 | 1 | 9 |
| 4 | . | 6 | 9 | 0 | 4 | 1 | 0 | 9 | 5 | 8 |
| 5 | . | 8 | 6 | 3 | 0 | 1 | 3 | 6 | 9 | 8 |
| 6 | 1 . | 0 | 3 | 5 | 6 | 1 | 6 | 4 | 3 | 8 |
| 7 | 1 . | 2 | 0 | 8 | 2 | 1 | 9 | 1 | 7 | 8 |
| 8 | 1 . | 3 | 8 | 0 | 8 | 2 | 1 | 9 | 1 | 7 |
| 9 | 1 . | 5 | 5 | 3 | 4 | 2 | 4 | 6 | 5 | 7 |

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## Sixty-four Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 7 | 5 | 3 | 4 | 2 | 4 | 6 | 5 |
| 2 | . | 3 | 5 | 0 | 6 | 8 | 4 | 9 | 3 | 1 |
| 3 | . | 5 | 2 | 6 | 0 | 2 | 7 | 3 | 9 | 7 |
| 4 | . | 7 | 0 | 1 | 3 | 6 | 9 | 8 | 6 | 3 |
| 5 | . | 8 | 7 | 6 | 7 | 1 | 2 | 3 | 2 | 8 |
| 6 | 1 . | 0 | 5 | 2 | 0 | 5 | 4 | 7 | 9 | 4 |
| 7 | 1 . | 2 | 2 | 7 | 3 | 9 | 7 | 2 | 6 | 0 |
| 8 | 1 . | 4 | 0 | 2 | 7 | 3 | 9 | 7 | 2 | 6 |
| 9 | 1 . | 5 | 7 | 8 | 0 | 8 | 2 | 1 | 9 | 1 |

## Sixty-five Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 7 | 8 | 0 | 8 | 2 | 1 | 9 | 1 |
| 2 | . | 3 | 5 | 6 | 1 | 6 | 4 | 3 | 8 | 3 |
| 3 | . | 5 | 3 | 4 | 2 | 4 | 6 | 5 | 7 | 5 |
| 4 | . | 7 | 1 | 2 | 3 | 2 | 8 | 7 | 6 | 7 |
| 5 | . | 8 | 9 | 0 | 4 | 1 | 0 | 9 | 5 | 8 |
| 6 | 1 . | 0 | 6 | 8 | 4 | 9 | 3 | 1 | 5 | 0 |
| 7 | 1 . | 2 | 4 | 6 | 5 | 7 | 5 | 3 | 4 | 2 |
| 8 | 1 . | 4 | 2 | 4 | 6 | 5 | 7 | 5 | 3 | 4 |
| 9 | 1 . | 6 | 0 | 2 | 7 | 3 | 9 | 7 | 2 | 6 |

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# APPENDIX.

## Sixty-six Days.

| 1 | . 1 8 0 8 2 1 9 1 7 |
| 2 | . 3 6 1 6 4 3 8 3 5 |
| 3 | . 5 4 2 4 6 5 7 5 3 |
| 4 | . 7 2 3 2 8 7 6 7 1 |
| 5 | . 9 0 4 1 0 9 5 8 9 |
| 6 | 1. 0 8 4 9 3 1 5 0 6 |
| 7 | 1. 2 6 5 7 5 3 4 2 4 |
| 8 | 1. 4 4 6 5 7 5 3 4 2 |
| 9 | 1. 6 2 7 3 9 7 2 6 0 |

## Sixty-seven Days.

| 1 | . 1 8 3 5 6 1 6 4 3 |
| 2 | . 3 6 7 1 2 3 2 8 7 |
| 3 | . 5 5 0 6 8 4 9 3 1 |
| 4 | . 7 3 4 2 4 6 5 7 5 |
| 5 | . 9 1 7 8 0 8 2 1 9 |
| 6 | 1. 1 0 1 3 6 9 8 6 3 |
| 7 | 1. 2 8 4 9 3 1 5 0 6 |
| 8 | 1. 4 6 8 4 9 3 1 5 0 |
| 9 | 1. 6 5 2 0 5 4 7 9 4 |

Sixty-

## Sixty-eight Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 8 | 6 | 3 | 0 | 1 | 3 | 6 | 9 |
| 2 | . | 3 | 7 | 2 | 6 | 0 | 2 | 7 | 3 | 9 |
| 3 | . | 5 | 5 | 8 | 9 | 0 | 4 | 1 | 0 | 9 |
| 4 | . | 7 | 4 | 5 | 2 | 0 | 5 | 4 | 7 | 9 |
| 5 | . | 9 | 3 | 1 | 5 | 0 | 6 | 8 | 4 | 9 |
| 6 | 1. | 1 | 1 | 7 | 8 | 0 | 8 | 2 | 1 | 9 |
| 7 | 1. | 3 | 0 | 4 | 1 | 0 | 9 | 5 | 8 | 9 |
| 8 | 1. | 4 | 9 | 0 | 4 | 1 | 0 | 9 | 5 | 8 |
| 9 | 1. | 6 | 7 | 6 | 7 | 1 | 2 | 3 | 2 | 8 |

## Sixty-nine Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 8 | 9 | 0 | 4 | 1 | 0 | 9 | 5 |
| 2 | . | 3 | 7 | 8 | 0 | 8 | 2 | 1 | 9 | 1 |
| 3 | . | 5 | 6 | 7 | 1 | 2 | 3 | 2 | 8 | 7 |
| 4 | . | 7 | 5 | 6 | 1 | 6 | 4 | 3 | 8 | 3 |
| 5 | . | 9 | 4 | 5 | 2 | 0 | 5 | 4 | 7 | 9 |
| 6 | 1. | 1 | 3 | 4 | 2 | 4 | 6 | 5 | 7 | 5 |
| 7 | 1. | 3 | 2 | 3 | 2 | 8 | 7 | 6 | 7 | 1 |
| 8 | 1. | 5 | 1 | 2 | 3 | 2 | 8 | 7 | 6 | 7 |
| 9 | 1. | 7 | 0 | 1 | 3 | 6 | 9 | 8 | 6 | 3 |

G 4

## Seventy Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 . | 1 | 9 | 1 | 7 | 8 | 0 | 8 | 2 | 1 |
| 2 | . | 3 | 8 | 3 | 5 | 6 | 1 | 6 | 4 | 3 |
| 3 | . | 5 | 7 | 5 | 3 | 4 | 2 | 4 | 6 | 5 |
| 4 | . | 7 | 6 | 7 | 1 | 2 | 3 | 2 | 8 | 7 |
| 5 | . | 9 | 5 | 8 | 9 | 0 | 4 | 1 | 0 | 9 |
| 6 | 1 . | 1 | 5 | 0 | 6 | 8 | 4 | 9 | 3 | 1 |
| 7 | 1 . | 3 | 4 | 2 | 4 | 6 | 5 | 7 | 5 | 3 |
| 8 | 1 . | 5 | 3 | 4 | 2 | 4 | 6 | 5 | 7 | 5 |
| 9 | 1 . | 7 | 2 | 6 | 0 | 2 | 7 | 3 | 9 | 7 |

## Seventy-one Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 9 | 4 | 5 | 2 | 0 | 5 | 4 | 7 |
| 2 | . | 3 | 8 | 9 | 0 | 4 | 1 | 0 | 9 | 5 |
| 3 | . | 5 | 8 | 3 | 5 | 6 | 1 | 6 | 4 | 3 |
| 4 | . | 7 | 7 | 8 | 0 | 8 | 2 | 1 | 9 | 1 |
| 5 | . | 9 | 7 | 2 | 6 | 0 | 2 | 7 | 3 | 9 |
| 6 | 1 . | 1 | 6 | 7 | 1 | 2 | 3 | 2 | 8 | 7 |
| 7 | 1 . | 3 | 6 | 1 | 6 | 4 | 3 | 8 | 3 | 5 |
| 8 | 1 . | 5 | 5 | 6 | 1 | 6 | 4 | 3 | 8 | 3 |
| 9 | 1 . | 7 | 5 | 0 | 6 | 8 | 4 | 9 | 3 | 1 |

Seventy-

## Seventy-two Days.

```
1 |  . 1 9 7 2 6 0 2 7 3
2 |  . 3 9 4 5 2 0 5 4 7
3 |  . 5 9 1 7 8 0 8 2 1
4 |  . 7 8 9 0 4 1 0 9 5
5 |  . 9 8 6 3 0 1 3 6 9
6 | 1. 1 8 3 5 6 1 6 4 3
7 | 1. 3 8 0 8 2 1 9 1 7
8 | 1. 5 7 8 0 8 2 1 9 1
9 | 1. 7 7 5 3 4 2 4 6 5
```

## Seventy-three Days.

```
1 |  . 2 0 0 0 0 0 0 0 0
2 |  . 4 0 0 0 0 0 0 0 0
3 |  . 6 0 0 0 0 0 0 0 0
4 |  . 8 0 0 0 0 0 0 0 0
5 | 1. 0 0 0 0 0 0 0 0 0
6 | 1. 2 0 0 0 0 0 0 0 0
7 | 1. 4 0 0 0 0 0 0 0 0
8 | 1. 6 0 0 0 0 0 0 0 0
9 | 1. 8 0 0 0 0 0 0 0 0
```

Seventy-

## Seventy-four Days.

```
1 |  . 2 0 2 7 3 9 7 2 6
2 |  . 4 0 5 4 7 9 4 5 2
3 |  . 6 0 8 2 1 9 1 7 8
4 |  . 8 1 0 9 5 8 9 0 4
5 | 1. 0 1 3 6 9 8 6 3 0
6 | 1. 2 1 6 4 3 8 3 5 6
7 | 1. 4 1 9 1 7 8 0 8 2
8 | 1. 6 2 1 9 1 7 8 0 8
9 | 1. 8 2 4 6 5 7 5 3 4
```

## Seventy-five Days.

```
1 |  . 2 0 5 4 7 9 4 5 2
2 |  . 4 1 0 9 5 8 9 0 4
3 |  . 6 1 6 4 3 8 3 5 6
4 |  . 8 2 1 9 1 7 8 0 8
5 | 1. 0 2 7 3 9 7 2 6 0
6 | 1. 2 3 2 8 7 6 7 1 2
7 | 1. 4 3 8 3 5 6 1 6 4
8 | 1. 6 4 3 8 3 5 6 1 6
9 | 1. 8 4 9 3 1 5 0 6 8
```

Seventy-

## Seventy-fix Days.

| | |
|---|---|
| 1 | . 2 0 8 2 1 9 1 7 8 |
| 2 | . 4 1 6 4 3 8 3 5 6 |
| 3 | . 6 2 4 6 5 7 5 3 4 |
| 4 | . 8 3 2 8 7 6 7 1 2 |
| 5 | 1 . 0 4 1 0 9 5 8 9 0 |
| 6 | 1 . 2 4 9 3 1 5 0 6 8 |
| 7 | 1 . 4 5 7 5 3 4 2 4 6 |
| 8 | 1 . 6 6 5 7 5 3 4 2 4 |
| 9 | 1 . 8 7 3 9 7 2 6 0 2 |

## Seventy-feven Days.

| | |
|---|---|
| 1 | . 2 1 0 9 5 8 9 0 4 |
| 2 | . 4 2 1 9 1 7 8 0 8 |
| 3 | . 6 3 2 8 7 6 7 1 2 |
| 4 | . 8 4 3 8 3 5 6 1 6 |
| 5 | 1 . 0 5 4 7 9 4 5 2 0 |
| 6 | 1 . 2 6 5 7 5 3 4 2 4 |
| 7 | 1 . 4 7 6 7 1 2 3 2 8 |
| 8 | 1 . 6 8 7 6 7 1 2 3 2 |
| 9 | 1 . 8 9 8 6 3 0 1 3 6 |

Seventy-

## Seventy-eight Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . 2 | 1 | 3 | 6 | 9 | 8 | 6 | 3 | 0 |
| 2 | . 4 | 2 | 7 | 3 | 9 | 7 | 2 | 6 | 0 |
| 3 | . 6 | 4 | 1 | 0 | 9 | 5 | 8 | 9 | 0 |
| 4 | . 8 | 5 | 4 | 7 | 9 | 4 | 5 | 2 | 0 |
| 5 | 1. 0 | 6 | 8 | 4 | 9 | 3 | 1 | 5 | 0 |
| 6 | 1. 2 | 8 | 2 | 1 | 9 | 1 | 7 | 8 | 0 |
| 7 | 1. 4 | 9 | 5 | 8 | 9 | 0 | 4 | 1 | 0 |
| 8 | 1. 7 | 0 | 9 | 5 | 8 | 9 | 0 | 4 | 1 |
| 9 | 1. 9 | 2 | 3 | 2 | 8 | 7 | 6 | 7 | 1 |

## Seventy-nine Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . 2 | 1 | 6 | 4 | 3 | 8 | 3 | 5 | 6 |
| 2 | . 4 | 3 | 2 | 8 | 7 | 6 | 7 | 1 | 2 |
| 3 | . 6 | 4 | 9 | 3 | 1 | 5 | 0 | 6 | 8 |
| 4 | . 8 | 6 | 5 | 7 | 5 | 3 | 4 | 2 | 4 |
| 5 | 1. 0 | 8 | 2 | 1 | 9 | 1 | 7 | 8 | 0 |
| 6 | 1. 2 | 9 | 8 | 6 | 3 | 0 | 1 | 3 | 6 |
| 7 | 1. 5 | 1 | 5 | 0 | 6 | 8 | 4 | 9 | 3 |
| 8 | 1. 7 | 3 | 1 | 5 | 0 | 6 | 8 | 4 | 9 |
| 9 | 1. 9 | 4 | 7 | 9 | 4 | 5 | 2 | 0 | 5 |

Eighty-

## Eighty Days.

```
1 | . 2 1 9 1 7 8 0 8 2
2 | . 4 3 8 3 5 6 1 6 4
3 | . 6 5 7 5 3 4 2 4 6
4 | . 8 7 6 7 1 2 3 2 8
5 | 1 . 0 9 5 8 9 0 4 1 0
6 | 1 . 3 1 5 0 6 8 4 9 3
7 | 1 . 5 3 4 2 4 6 5 7 5
8 | 1 . 7 5 3 4 2 4 6 5 7
9 | 1 . 9 7 2 6 0 2 7 3 9
```

## Eighty-one Days.

```
1 | . 2 2 1 9 1 7 8 0 8
2 | . 4 4 3 8 3 5 6 1 6
3 | . 6 6 5 7 5 3 4 2 4
4 | . 8 8 7 6 7 1 2 3 2
5 | 1 . 1 0 9 5 8 9 0 4 1
6 | 1 . 3 3 1 5 0 6 8 4 9
7 | 1 . 5 5 3 4 2 4 6 5 7
8 | 1 . 7 7 5 3 4 2 4 6 5
9 | 1 . 9 9 7 2 6 0 2 7 3
```

Eighty-

## Eighty-two Days.

```
1  │ . 2 2 4 6 5 7 5 3 4
2  │ . 4 4 9 3 1 5 0 6 8
3  │ . 6 7 3 9 7 2 6 0 2
4  │ . 8 9 8 6 3 0 1 3 6
5  │ 1 . 1 2 3 2 8 7 6 7 1
6  │ 1 . 3 4 7 9 4 5 2 0 5
7  │ 1 . 5 7 2 6 0 2 7 3 9
8  │ 1 . 7 9 7 2 6 0 2 7 3
9  │ 2 . 0 2 1 9 1 7 8 0 8
```

## Eighty-three Days.

```
1  │ . 2 2 7 3 9 7 2 6 0
2  │ . 4 5 4 7 9 4 5 2 0
3  │ . 6 8 2 1 9 1 7 8 0
4  │ . 9 0 9 5 8 9 0 4 1
5  │ 1 . 1 3 6 9 8 6 3 0 1
6  │ 1 . 3 6 4 3 8 3 5 6 1
7  │ 1 . 5 9 1 7 8 0 8 2 1
8  │ 1 . 8 1 9 1 7 8 0 8 2
9  │ 2 . 0 4 6 5 7 5 3 4 2
```

Eighty-

## Eighty-four Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 2 | 3 | 0 | 1 | 3 | 6 | 9 | 8 | 6 |
| 2 | . | 4 | 6 | 0 | 2 | 7 | 3 | 9 | 7 | 2 |
| 3 | . | 6 | 9 | 0 | 4 | 1 | 0 | 9 | 5 | 8 |
| 4 | . | 9 | 2 | 0 | 5 | 4 | 7 | 9 | 4 | 5 |
| 5 | 1 | . | 1 | 5 | 0 | 6 | 8 | 4 | 9 | 3 | 1 |
| 6 | 1 | . | 3 | 8 | 0 | 8 | 2 | 1 | 9 | 1 | 7 |
| 7 | 1 | . | 6 | 1 | 0 | 9 | 5 | 8 | 9 | 0 | 4 |
| 8 | 1 | . | 8 | 4 | 1 | 0 | 9 | 5 | 8 | 9 | 0 |
| 9 | 2 | . | 0 | 7 | 1 | 2 | 3 | 2 | 8 | 7 | 6 |

## Eighty-five Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 2 | 3 | 2 | 8 | 7 | 6 | 7 | 1 | 2 |
| 2 | . | 4 | 6 | 5 | 7 | 5 | 3 | 4 | 2 | 4 |
| 3 | . | 6 | 9 | 8 | 6 | 3 | 0 | 1 | 3 | 6 |
| 4 | . | 9 | 3 | 1 | 5 | 0 | 6 | 8 | 4 | 9 |
| 5 | 1 | . | 1 | 6 | 4 | 3 | 8 | 3 | 5 | 6 | 1 |
| 6 | 1 | . | 3 | 9 | 7 | 2 | 6 | 0 | 2 | 7 | 3 |
| 7 | 1 | . | 6 | 3 | 0 | 1 | 3 | 6 | 9 | 8 | 6 |
| 8 | 1 | . | 8 | 6 | 3 | 0 | 1 | 3 | 6 | 9 | 8 |
| 9 | 2 | . | 0 | 9 | 5 | 8 | 9 | 0 | 4 | 1 | 0 |

Eighty-

## Eighty-six Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 2 | 3 | 5 | 6 | 1 | 6 | 4 | 3 | 8 |
| 2 | . | 4 | 7 | 1 | 2 | 3 | 2 | 8 | 7 | 6 |
| 3 | . | 7 | 0 | 6 | 8 | 4 | 9 | 3 | 1 | 5 |
| 4 | . | 9 | 4 | 2 | 4 | 6 | 5 | 7 | 5 | 3 |
| 5 | 1 . | 1 | 7 | 8 | 0 | 8 | 2 | 1 | 9 | 1 |
| 6 | 1 . | 4 | 1 | 3 | 6 | 9 | 8 | 6 | 3 | 0 |
| 7 | 1 . | 6 | 4 | 9 | 3 | 1 | 5 | 0 | 6 | 8 |
| 8 | 1 . | 8 | 8 | 4 | 9 | 3 | 1 | 5 | 0 | 6 |
| 9 | 2 . | 1 | 2 | 0 | 5 | 4 | 7 | 9 | 4 | 5 |

## Eighty-seven Days.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 2 | 3 | 8 | 3 | 5 | 6 | 1 | 6 | 4 |
| 2 | . | 4 | 7 | 6 | 7 | 1 | 2 | 3 | 2 | 8 |
| 3 | . | 7 | 1 | 5 | 0 | 6 | 8 | 4 | 9 | 3 |
| 4 | . | 9 | 5 | 3 | 4 | 2 | 4 | 6 | 5 | 7 |
| 5 | 1 . | 1 | 9 | 1 | 7 | 8 | 0 | 8 | 2 | 1 |
| 6 | 1 . | 4 | 3 | 0 | 1 | 3 | 6 | 9 | 8 | 6 |
| 7 | 1 . | 6 | 6 | 8 | 4 | 9 | 3 | 1 | 5 | 0 |
| 8 | 1 . | 9 | 0 | 6 | 8 | 4 | 9 | 3 | 1 | 5 |
| 9 | 2 . | 1 | 4 | 5 | 2 | 0 | 5 | 4 | 7 | 9 |

Eighty-

## Eighty-eight Days.

```
1 |   . 2 4 1 0 9 5 8 9 0
2 |   . 4 8 2 1 9 1 7 8 0
3 |   . 7 2 3 2 8 7 6 7 1
4 |   . 9 6 4 3 8 3 5 6 1
5 | 1 . 2 0 5 4 7 9 4 5 2
6 | 1 . 4 4 6 5 7 5 3 4 2
7 | 1 . 6 8 7 6 7 1 2 3 2
8 | 1 . 9 2 8 7 6 7 1 2 3
9 | 2 . 1 6 9 8 6 3 0 1 3
```

## Eighty-nine Days.

```
1 |   . 2 4 3 8 3 5 6 1 6
2 |   . 4 8 7 6 7 1 2 3 2
3 |   . 7 3 1 5 0 6 8 4 9
4 |   . 9 7 5 3 4 2 4 6 5
5 | 1 . 2 1 9 1 7 8 0 8 2
6 | 1 . 4 6 3 0 1 3 6 9 8
7 | 1 . 7 0 6 8 4 9 3 1 5
8 | 1 . 9 5 0 6 8 4 9 3 1
9 | 2 . 1 9 4 5 2 0 5 4 7
```

H                                    Ninety

## Ninety Days.

| 1 | . 2 4 6 5 7 5 3 4 2 |
|---|---|
| 2 | . 4 9 3 1 5 0 6 8 4 |
| 4 | . 7 3 9 7 2 6 0 2 7 |
| 4 | . 9 8 6 3 0 1 . 3 6 9 |
| 5 | 1 . 2 3 2 8 7 6 7 1 2 |
| 6 | 1 . 4 7 9 4 5 2 0 5 4 |
| 7 | 1 . 7 2 6 0 2 7 3 9 7 |
| 8 | 1 . 9 7 2 6 0 2 7 3 9 |
| 9 | 2 . 2 1 9 1 7 8 0 8 2 |

## Ninety-one Days.

| 1 | . 2 4 9 3 1 5 0 6 8 |
|---|---|
| 2 | . 4 9 8 6 3 0 1 3 6 |
| 3 | . 7 4 7 9 4 5 2 0 5 |
| 4 | . 9 9 7 2 6 0 2 7 3 |
| 5 | 1 . 2 4 6 5 7 5 3 4 2 |
| 6 | 1 . 4 9 5 8 9 0 4 1 0 |
| 7 | 1 . 7 4 5 2 0 5 4 7 9 |
| 8 | 1 . 9 9 4 5 2 0 5 4 7 |
| 9 | 2 . 2 4 3 8 3 5 6 1 6 |

APPLI

## APPLICATION of the TABLES.

A Widow, who had an Annuity of 650*l.* lived but sixty-nine Days of the Current Quarter of the Year.

Q. What is due to her Executrix?

By the Sixty-ninth Table,

| | | | |
|---|---|---|---|
| 600. | —— | is | 113.4246 |
| 50. | —— | | 9.4520 |
| | | | 122.8767 |

Anſwer, 122*l.* 17*s.* 6*d.* ¼

---

Q. What are Seven Days Income of a Penſion of 800*l. per Ann.*

By the Seventh Table.

800 —— is 15.34246

Anſwer, 15*l.* 6*s.* 10*d. per* Week.

or 2*l.* 3*s.* 10*d. per* Diem.

| 2 | : | 3 | : | 10 |
|---|---|---|---|---|
| | | | | 7 |
| 15 | : | 6 | : | 10 |

My

My Butler who I agreed to pay 15*l. per Ann.* has lived with me only 40 Days.

Q. What is due to him?

By the Fortieth Table,

| | | |
|---|---|---|
| 10 | —— is | 1.09589 |
| 5 | —— | .54794 |
| | | 1.64383 |

Answer, 1*l.* 12*s.* 10*d.* ½

---

I have a Sum of Money at Interest, which brings me in 620*l.* 15*s. per Ann.*

Q. The Interest of the said Principal Sum for Fifty-four Days only?

By the Fifty-fourth Table,

| | | |
|---|---|---|
| 600. | —— is | 88.7671232 |
| 20. | —— | 2.9589041 |
| .7 | —— | .1035616 |
| .05 | —— | .0073972 |
| | | 91.8369863 |

Answer, 91*l.* 16*s.* 8*d.* ¾

*Note,* For the .7 Tenths, the Decimal of the 7th Line is carried back one remove, and for the .05 the 5th Line is carried back two Places.